CE

dirna, s.a.

Acondicionadores de aire para vehículos

bycool

green line

DINAMIC 1.1

12 V

Instrucciones de Montaje
Mounting Instructions
Instructions de Montage
Montageanweisungen
Istruzioni di Montaggio

ES Spanish

EN English

FR French

GE German

IT Italian

AENOR
ER
Empresa Registrada
ER-0022/1/99

CERTIFIED IQNet QUALITY SYSTEM

220.AA1.1008

RECOMENDACIONES PARA EL MONTAJE

- **Antes de iniciar el montaje leer las instrucciones y seguirlas durante el proceso de instalacion.**
- **Usar las herramientas adecuadas para cada operación.**

ELECTRICIDAD

- **Desconectar la llave de contacto.**
- **Desconectar la batería antes de empezar el montaje.**
- **Asegurar el conexionado de los componentes eléctricos, verificando su correcto encaje.**

Herramientas
Carraca con llave de paso de 10
Destornillador de estrella TOP 10
Llave fija de 10
Llave fija de 11
Llave fija de 14
Llave fija de 17
Llave fija de 19
Llave allen de 6
Llave de tubo de Ø10
Broca Ø 4
Taladradora
Broca Ø6
Sierra circular Ø19
Sierra circular Ø22
Sierra circular Ø48
Tijeras
Remachadora M6

DOCUMENTACIÓN QUE EL EQUIPO INCLUYE:

- **Instrucciones de Montaje: 220.AA1.1008**
- **Manual del Usuario: 220.AA1.1002**
- **Diagnosis de Averías: 220.AA1.1003**
- **Garantía: 220.AA1.0010**

Las indicaciones relativas a posición son:
DERECHA: Lado pasajero
IZQUIERDA: Lado conductor

Par de apriete *(N.m)*			
Rosca	Calidad Acero		Par
	8.8	10.9	
M6/100	10	13	10

Montaje de tuberías		
Par de apriete		
Tubería	Par de apriete	Herramienta
1/4”	13-15	Llave fija 14 mm
3/8”	15-17	Llave fija 19 mm

ADVERTENCIAS :

- El personal instalador debe poseer una formación suficiente en Aire Acondicionado de vehículos.
- **dirna, s.a.** queda exenta de responsabilidad si se producen averías que procedan de una inadecuada manipulación ó instalación del equipo, ó por modificaciones y sustituciones efectuadas sin nuestra expresa autorización por escrito.
- **Cantidad de carga de gas refrigerante R-134a, a introducir en el circuito: 300 gr.**
- Véase **procedimiento de garantía** del producto incluido en **Diagnosis de Averías**.
- Véase **Manual de Usuario** del equipo para el correcto funcionamiento del mando a distancia y del panel de control.
- Al finalizar la instalación se debe entregar al usuario: **Manual del Usuario**, **Garantía** y **Diagnosis de averías**.

OPERACIONES PREVIAS:

- Desconectar batería.
- Desmontar tapa de unidad evaporadora.

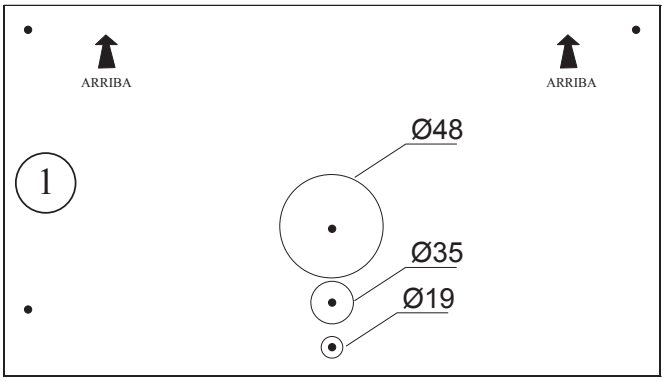
1

POR INTERIOR CABINA:

Presentar plantilla suministrada y marcar taladros.

A- En caso de existir 2 camas, presentar plantilla entre ambas.

B- En caso de existir 1 cama, presentar plantilla por encima de la cama.



2

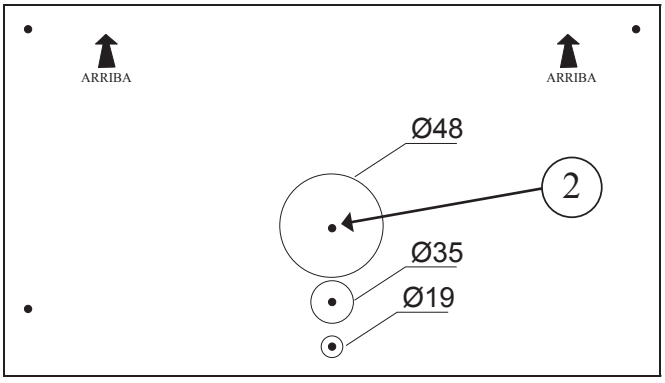
Dar taladro Ø4 pasante con broca larga en posición de taladro Ø48, después efectuar los siguientes taladros.

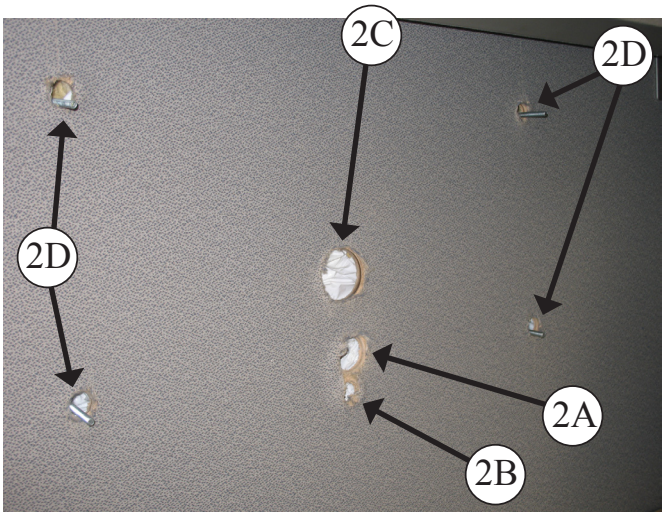
A- dar (1) Ø35 sólo en el tapizado

B- dar (1) Ø19 sólo en el tapizado

C- dar (1) Ø48 sólo en el tapizado

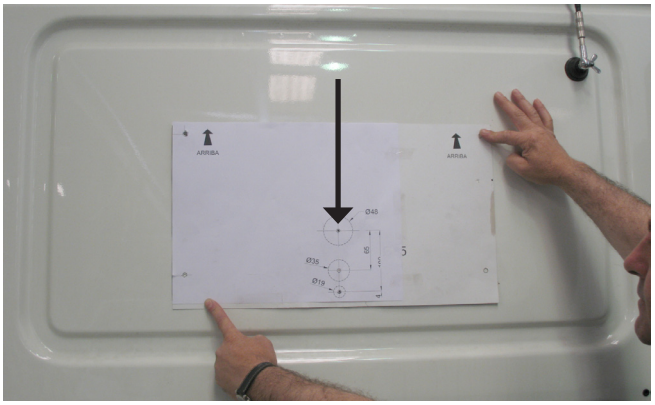
D- dar (4) Ø22 sólo en el tapizado



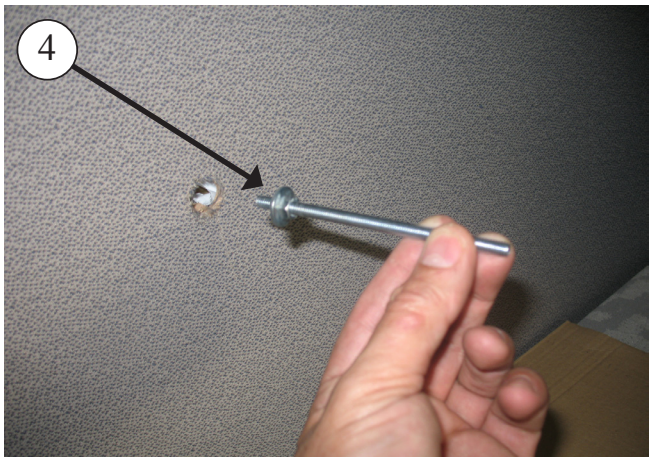


3 **POR EXTERIOR CABINA:**

Presentar plantilla a nivel por exterior, tomando como referencia el taladro efectuado Ø4 y marcar y dar taladros restantes.



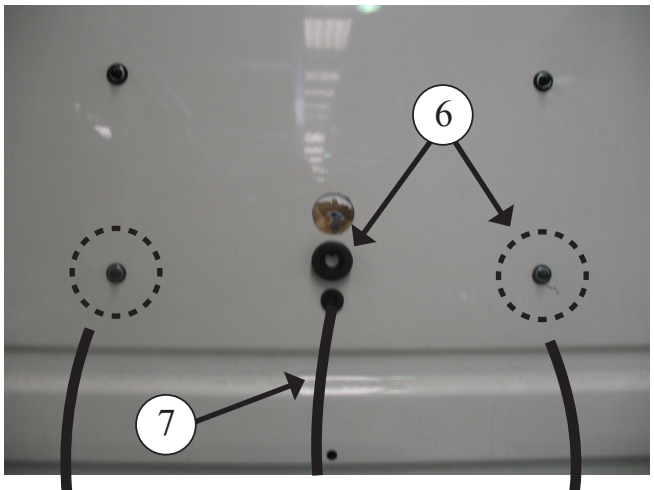
4 Introducir por interior esparragos M6 c/tuerca y arandela como se indica.

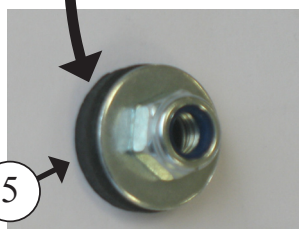


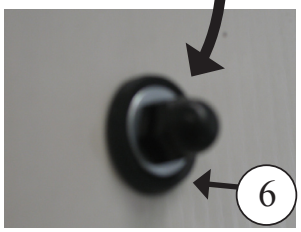
5 Fijar por el exterior con arandela de goma, plana y tuerca autoblocante sujetando por parte interior con llave de tubo 10.

6 Colocar tapones de tuerca y pasamuros.

7 Pasar tubo desagüe por taladro Ø19, por el pasamuros, hacia el interior cabina.







OPERACIONES SÓLO VÁLIDAS PARA MODELOS RENAULT MAGNUM

OPERACIONES PREVIAS:

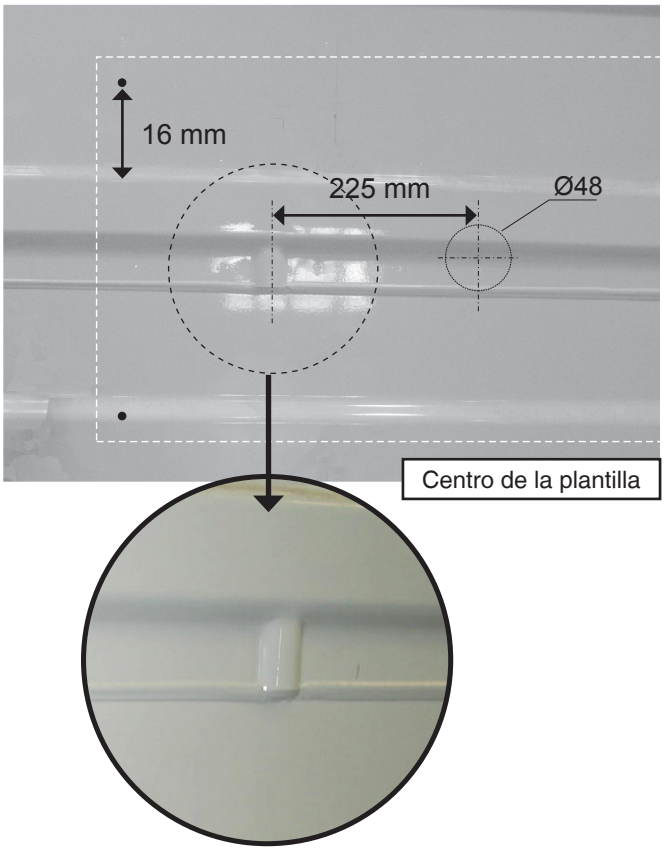
- Desconectar batería.
- Desmontar tapa de unidad evaporadora.

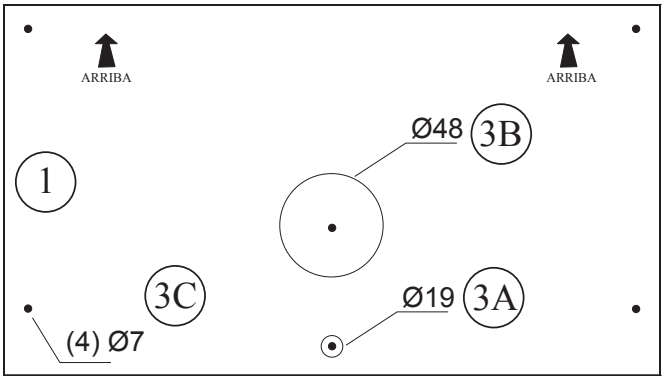
1 **POR EXTERIOR CABINA:**

Presentar plantilla suministrada según cotas.

2 Marcar todos los taladros.

3 Dar taladros Ø4 pasante con broca larga en posición de taladro Ø48, después efectuar los siguientes taladros:
A- dar (1) Ø19
B- dar (1) Ø48
C- dar (4) Ø7

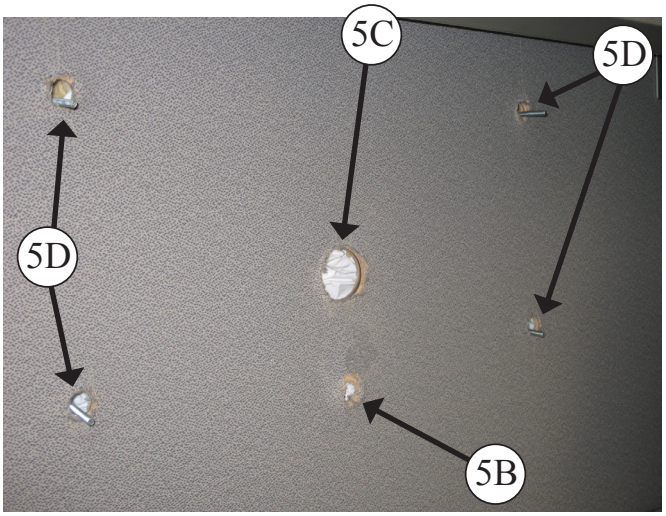




4 **POR INTERIOR CABINA:**

Presentar plantilla suministrada y marcar taladro de Ø48.

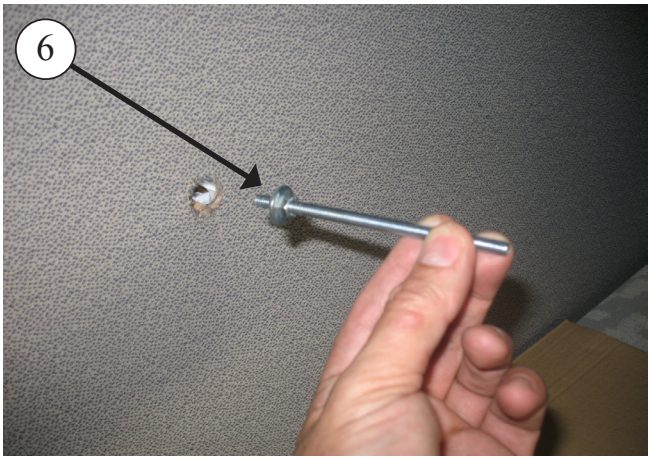
5 Efectuar los siguientes taladros:
B- dar (1) Ø19 sólo en el tapizado
C- dar (1) Ø48 sólo en el tapizado
D- dar (4) Ø22 sólo en el tapizado



OPERACIONES SÓLO VÁLIDAS PARA MODELOS RENAULT MAGNUM

6 **POR EXTERIOR CABINA:**

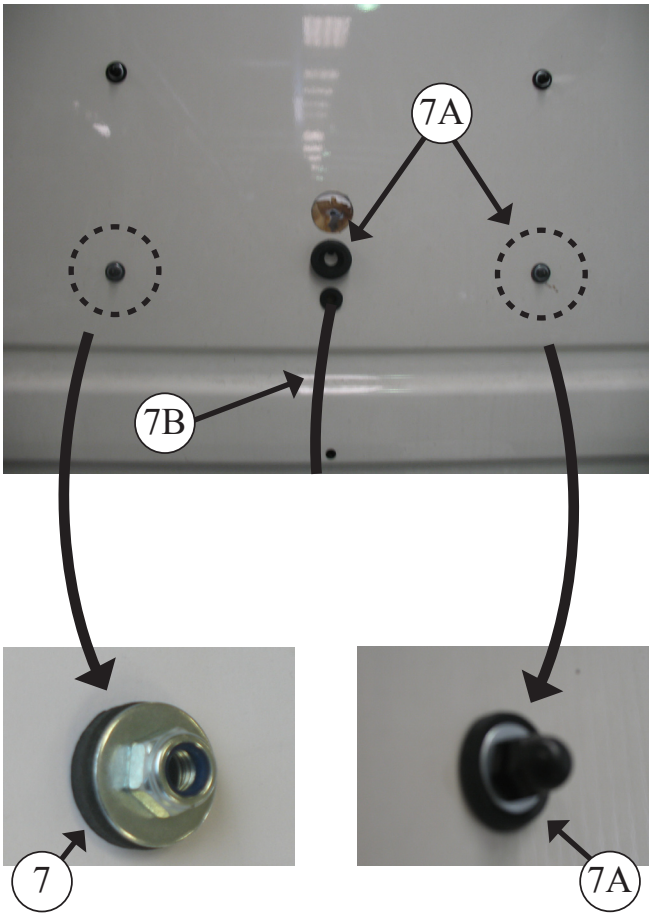
Introducir por interior esparragos M6 c/tuerca y arandela como se indica.



7 Fijar por el exterior con arandela de goma, plana y tuerca autoblocante sujetando por parte interior con llave de tubo 10.

7A Colocar tapones de tuerca y pasamuros.

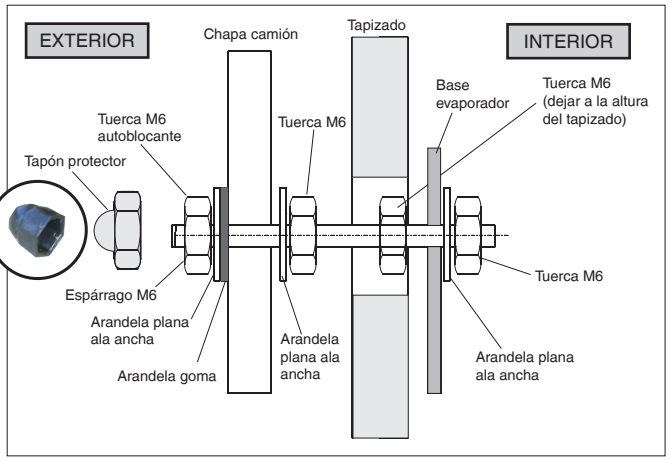
7B Pasar tubo desagüe por taladro Ø19, por el pasamuros, hacia el interior cabina.



OPERACIONES VÁLIDAS PARA TODOS LOS MODELOS

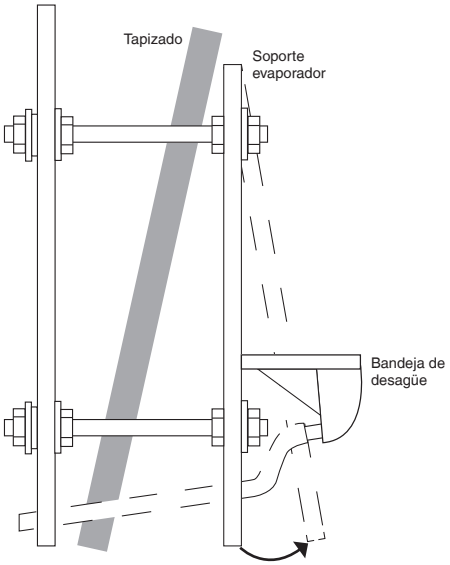
8 En los espárragos roscar (4) tuercas M6 con (4) arandelas planas Ø 6 quedando éstas a ras del tapizado.

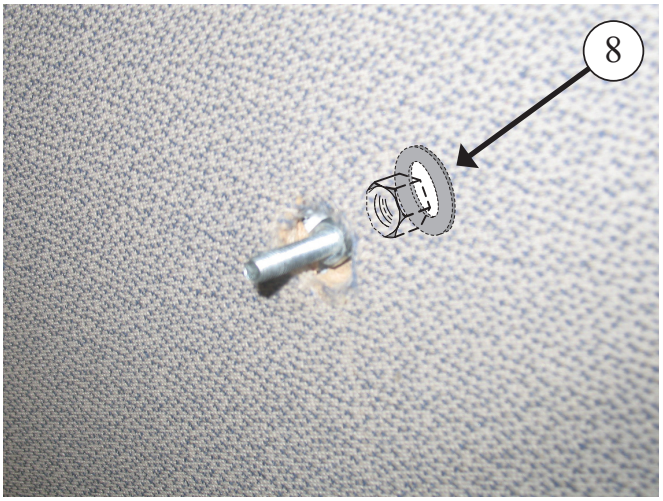
VER ESQUEMA ADJUNTO



MUY IMPORTANTE

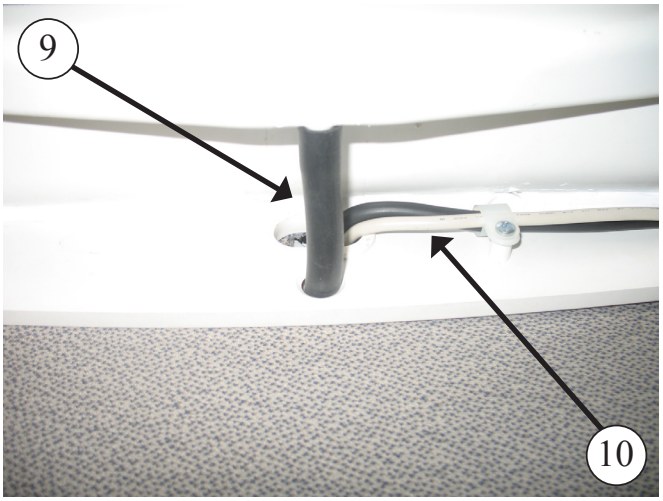
En el caso de tapizados con inclinación el conjunto evaporador tiene que quedar vertical o inclinado de la parte inferior hacia fuera para evitar que el agua de condensación caiga al tapizado.



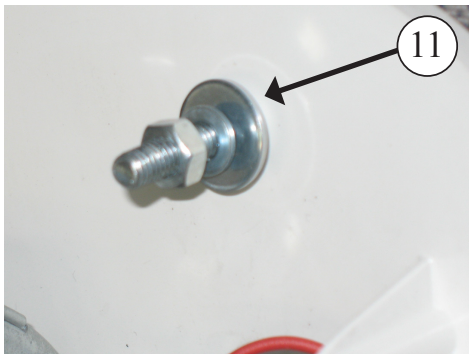


9 Pasar tubo desagüe por taladro de la base del evaporador y conectar a la bandeja.

10 Pasar cableados por taladro Ø 35 hacia el exterior.



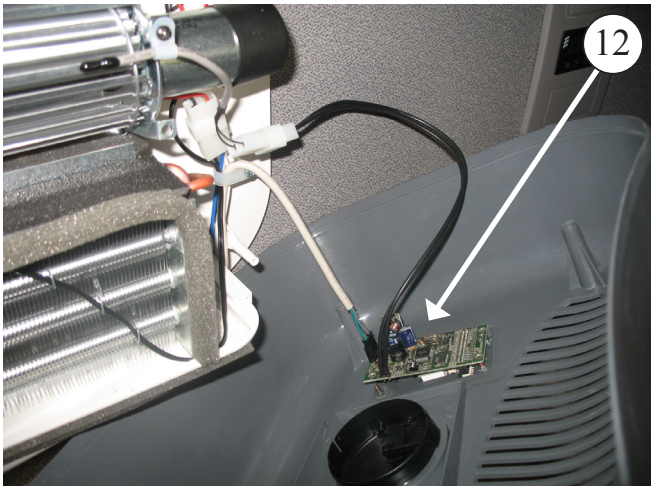
11 Introducir base evaporador sobre espárragos y Fijar con (4) arandelas planas (4)grower y (4) tuercas M6.



⚠ **MUY IMPORTANTE**

El desagüe debe quedar con la suficiente caída para evitar la caída del agua al tapizado.

12 Conectar sonda recirculación y cable de comunicaciones.



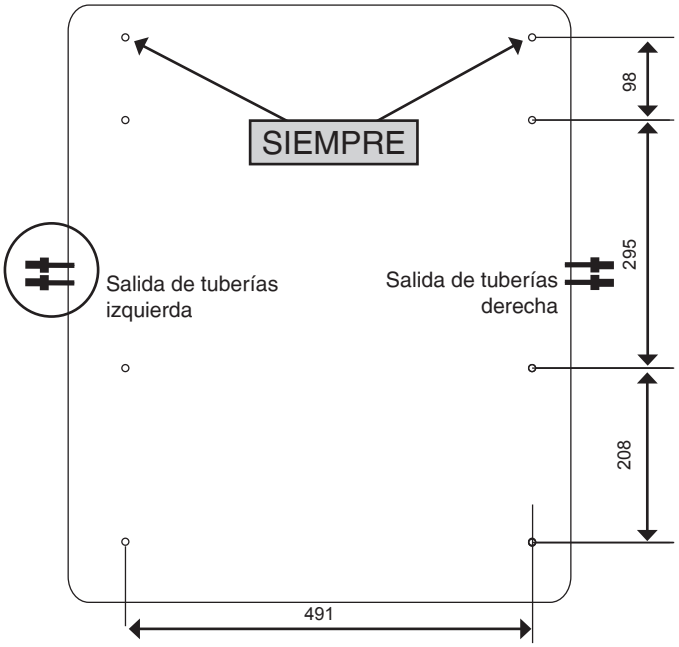
13	Volver a fijar frente con sus tornillos, usando destornillador inmantado y colocar tapones.

MONTAJE CONDENSADOR:

Importante: Dependiendo del vehículo podemos colocar las salidas de las tuberías por el lado derecho o por el lado izquierdo.

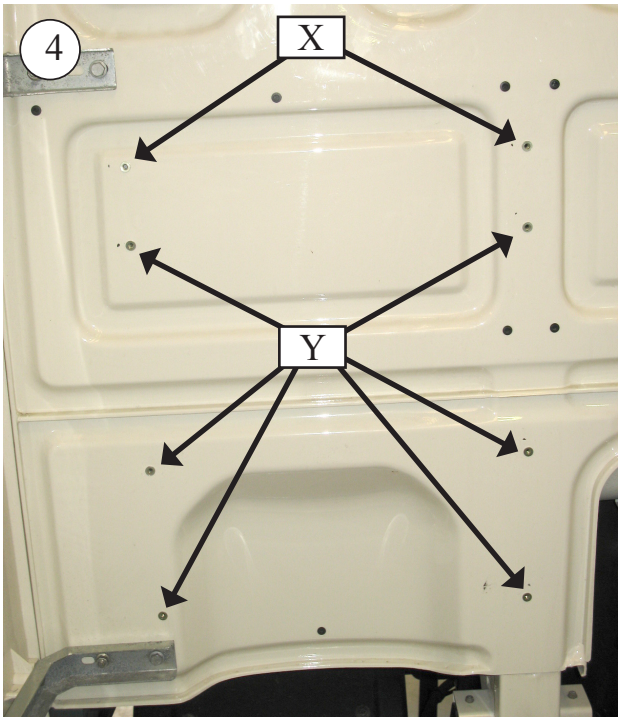
1 **Nota:** Cuando la instalación la realice una sola persona, marcar los taladros con las medidas indicada, teniendo en cuenta longitud de tubería (del evaporador al condensador).

2 Desmontar tapa y soltar el cableado del electro.



3 **Si se realiza entre 2 personas**.Presentar la base del condensador situandola en la parte trasera de la cabina mas idónea, **teniendo en cuenta la longitud de tubería desde la salida del evaporador al condensador**, y fijar mínimo 6 taladros.

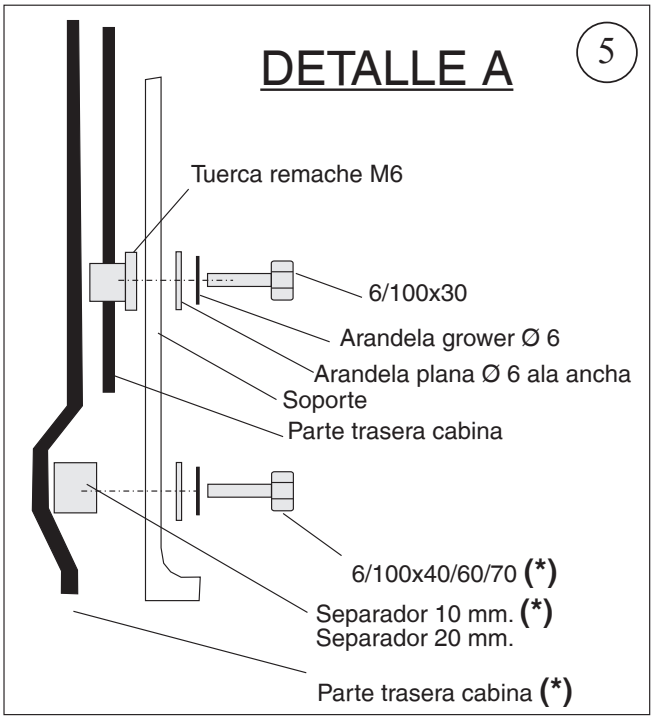
4 Dar primero los (2)Taladros superiores **(X)** a Ø 9, colocar tuercas remache de M6 y posicionar la base con tornillos 6/100x30 marcar y dar el resto de taladros **(Y)**, colocar tuercas.



5

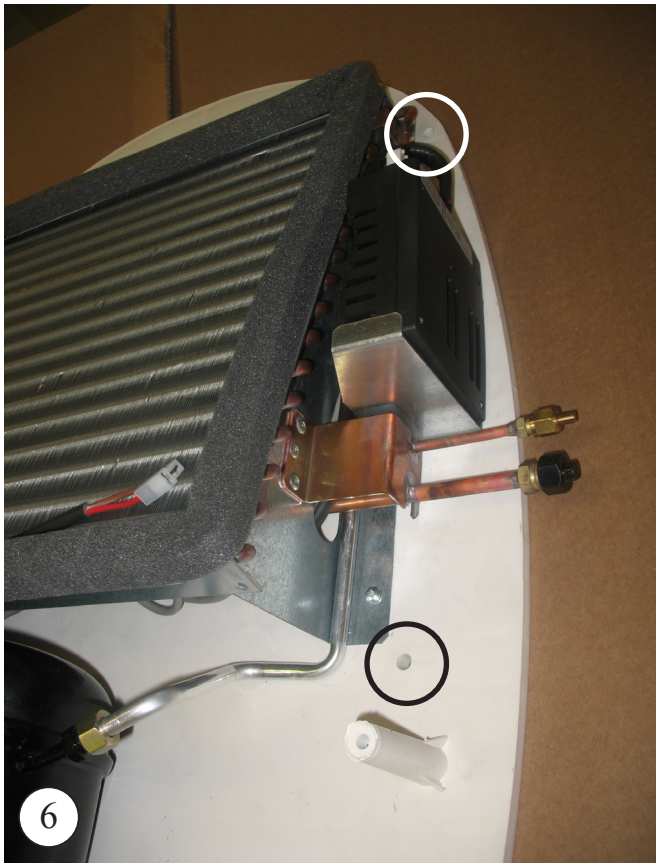
(*)- en los casos que no apoye en parte lisa, colocar separador de 10/20/40 mm.y tornillo 6/100x40/60/70.

VER DETALLE A

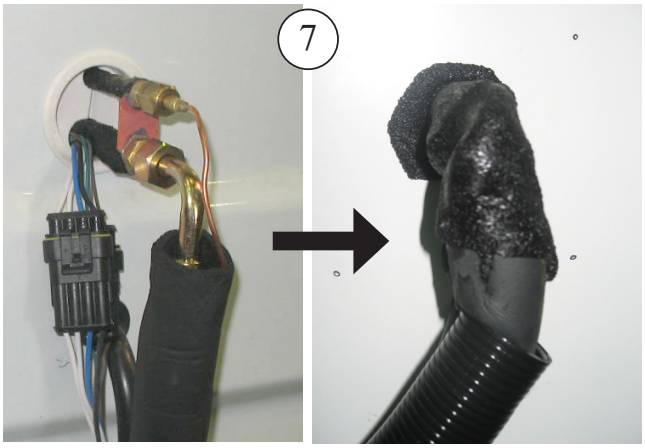


6

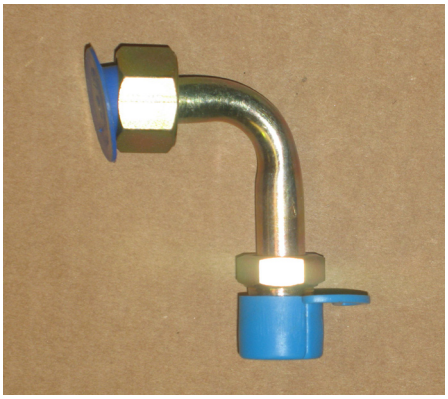
Fijar Unidad con(8) tornillos 6/100X30, arandela grower y plana.



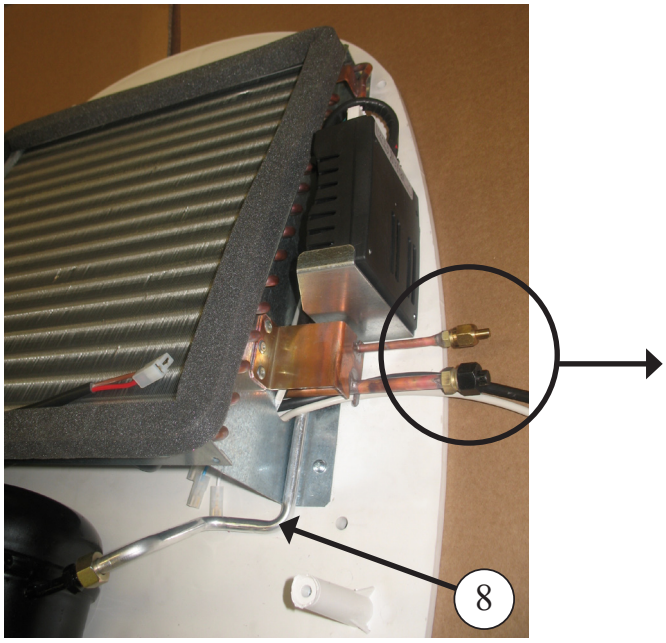
7	Conectar cableado y racores en evaporador y sellar con cinta antigoteo.



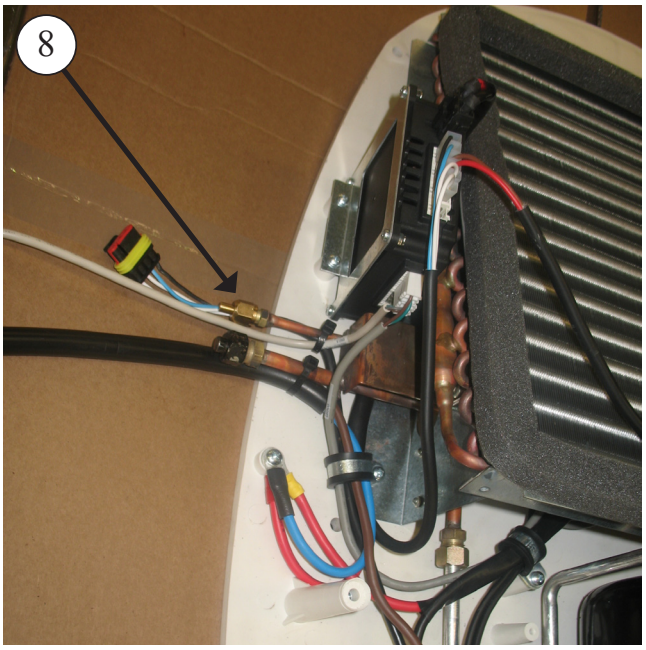
8	Conectar tuberías y cableado en unidad condensadora.
⚠	En caso de ser necesario colocar racor de empalme 90º.



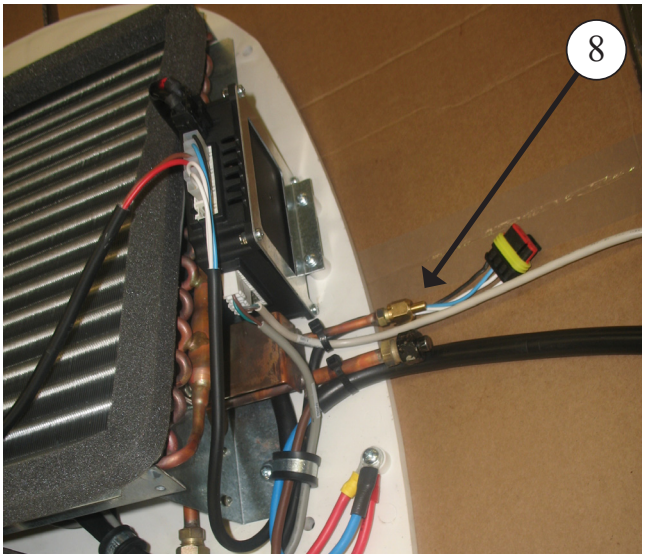
LADO DERECHO



LADO IZQUIERDO

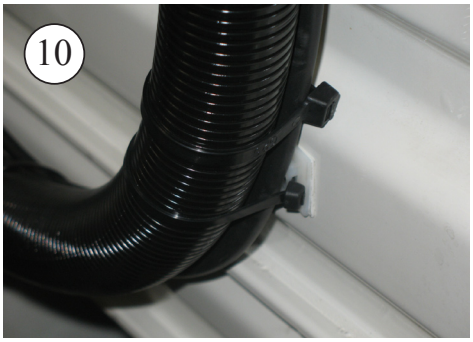


LADO DERECHO

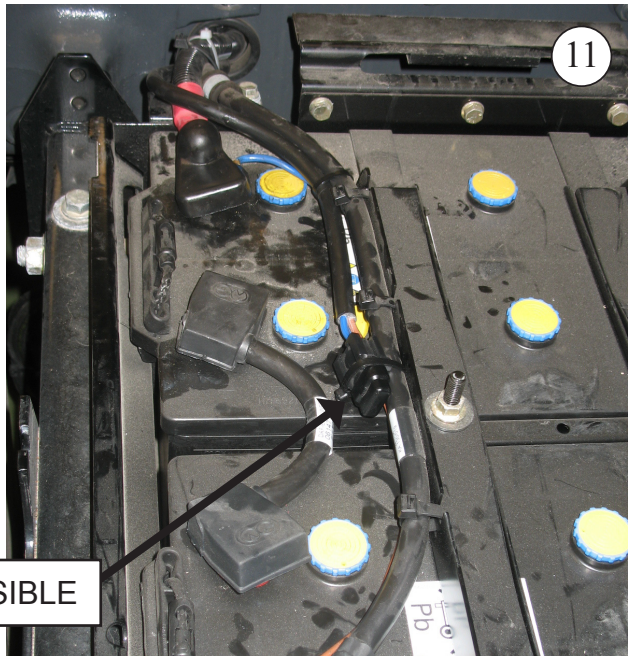


9	Presentar protector de tuberías con junta, marcar y taladrar a Ø4 y fijar con tornillos rosca chapa 4,8x19mm.

10	Pegar soportes de plástico y fijar tubería, cableados y tubo desagüe (limpiar zona montaje).
10a	Colocar válvula de drenaje.

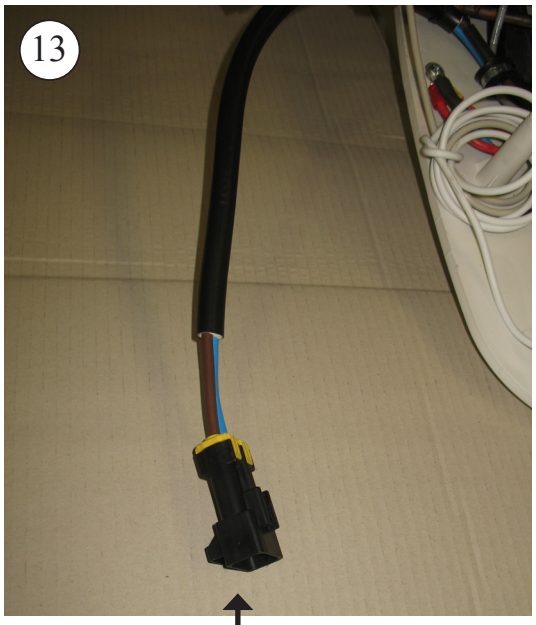


11	Conectar en batería cableado alimentación **ATENCIÓN A LA POLARIDAD.**

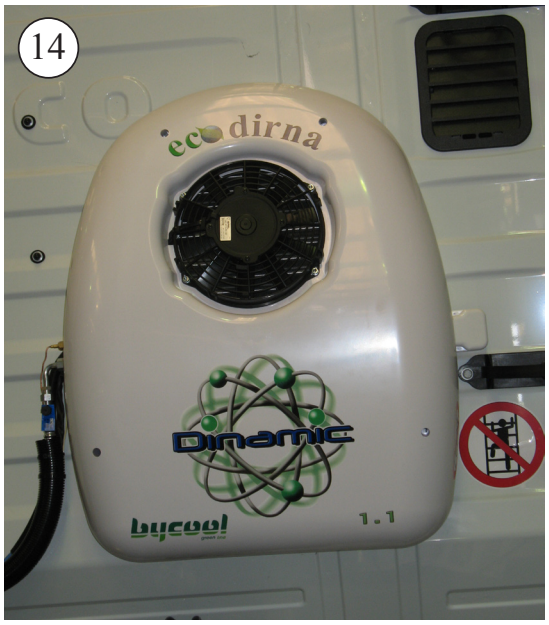


12	Pasar cableado por la zona mas idonea hacia la unidad condensadora, fijando c/abrazaderas o bridas.

13	Conectar cableado alimentación con el de la unidad.

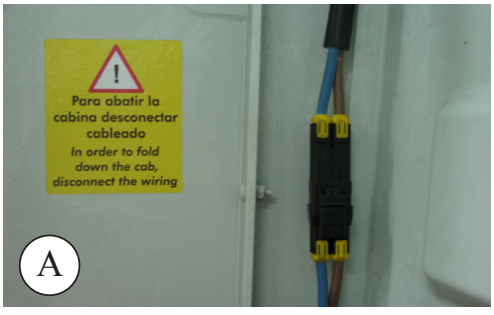


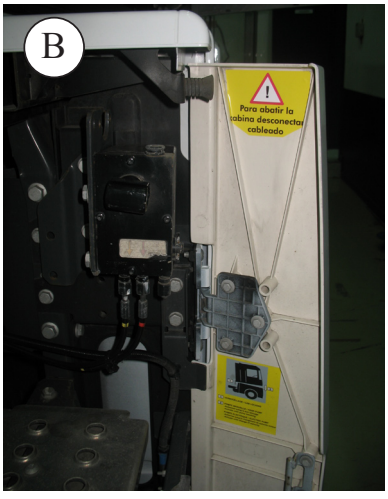
14 Colocar tapa con tornillos desmontados anteriormente.



15 Colocar tapa protectora de racores c/tornillos rosca chapa 3,1x 11 en lado opuesto a tuberias.

16 Colocar adhesivos de peligro en unión cableado (A), y en dispositivo de elevación de cabina (B)





CARGA DE GAS:	
17	Hacer vacío en el circuito durante al menos 30 minutos.

18	Introducir 300 gr.de carga de gas R134a y poner el equipo en marcha.

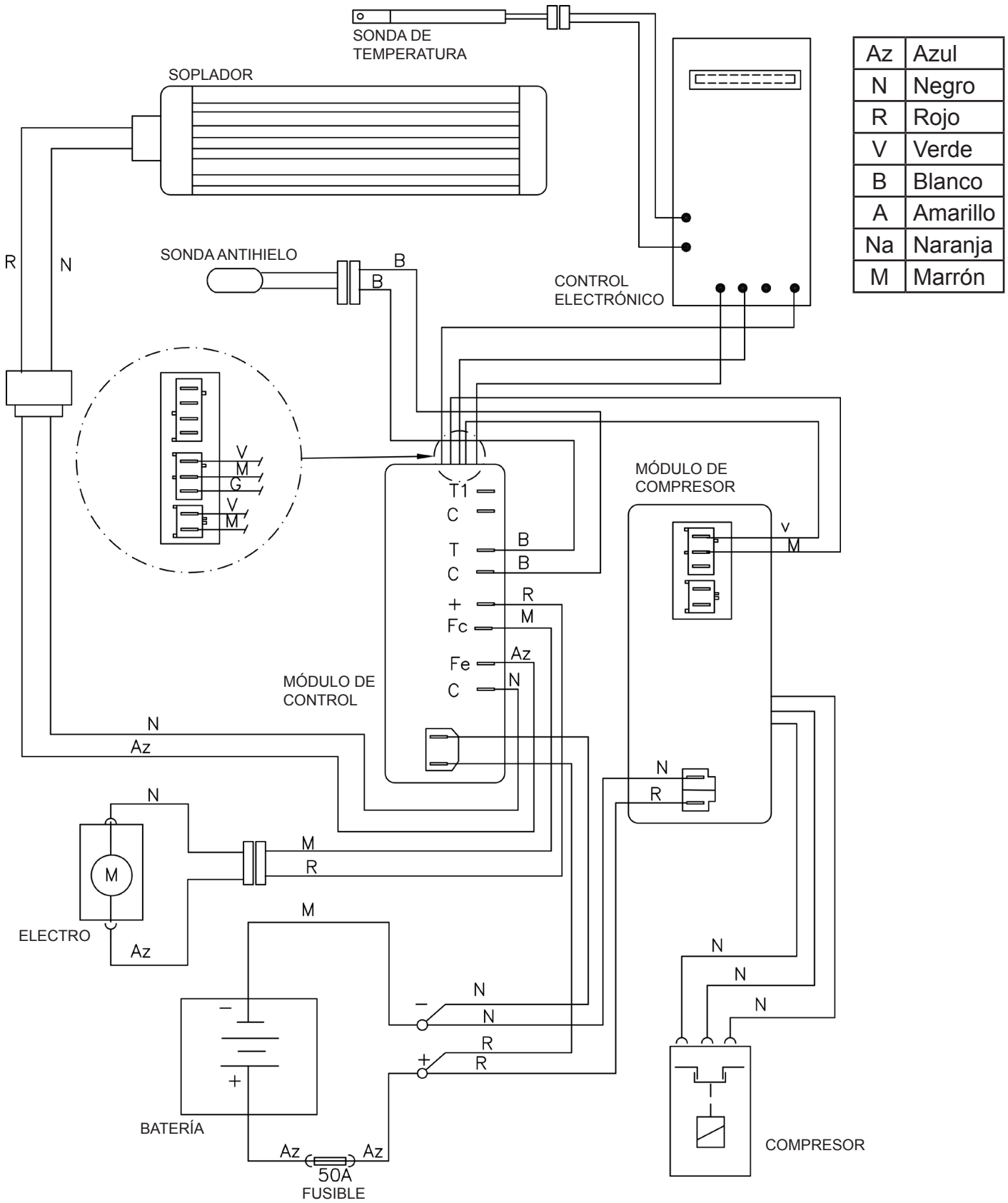
19	VISTA GENERAL DE LA UNIDAD CONDENSADORA Y TUBERÍA.

20	VISTA GENERAL DE LA UNIDAD EVAPORADORA.

ESQUEMA ELÉCTRICO

¡AVISO IMPORTANTE!

Precaución de no invertir las polaridades al conectar el equipo a la batería. Si esto sucediera, el control electrónico emitirá unos pitidos discontinuos. **No debe tocarse ninguna tecla ni del panel ni del mando del equipo** porque se pueden producir daños irreparables. A la señal de estos pitidos discontinuos, desconectar el equipo de la batería y verificar la polaridad de la conexión.



ASSEMBLY RECOMMENDATIONS

• **Before starting assembly, please read instructions and follow them during installation process.**

• **Use the adequate tools for each operation.**

ELECTRICITY

• **Disconnect ignition key.**

• **Disconnect battery before starting assembly.**

• **Make sure electric components are securely connected, checking their correct fitting.**

Tools
Ratchet wrench of 10
Cruciform screwdriver TOP 10
Wrench of 10
Wrench of 11
Wrench of 14
Wrench of 17
Wrench of 19
Allen key of 6
Socket wrench of Ø10
Broach Ø 4
Drill
Broach Ø6
Circular saw Ø19
Circular saw Ø22
Circular saw Ø48
Scissors
Riveter M6

DOCUMENTATION INCLUDED WITH EQUIPMENT:

- **Mounting instructions: 220.AA1.1008**
- **User's guide: 220.AA1.1002**
- **Troubleshooting: 220.AA1.1003**
- **Warranty: 220.AA1.0010**

Indications concerning position are:
RIGHT: Passenger side
LEFT: Driver side

Driving torques *(N.m)*			
Fillet	Steel Quality		Wrench opening
	8.8	10.9	
M6/100	10	13	10

Hoses assembly		
Driving torques *(N.m)*		
Hose size	Fitting Driving Torque	Tool
1/4"	13-15	Wrench 14mm.
3/8"	15-17	Wrench 19mm.

WARNINGS:

• The installing personnel must have a sufficient training in vehicles air conditioning.

• **dirna, s.a.** shall not be responsible for breakdowns or damages coming from an inadequate handling or installation of the equipment or from modifications and substitutions carried out without our express and written authorisation.

• **Amount of refrigerant gas load R-134a to be introduced in the circuit: 300 g.**

• Please see product **warranty procedure** included in **Troubleshooting diagnosis**.

• Please see equipment **User's Guide** for its correct functioning of the remote control and control panel.

• Once installation is finished, the following documents must be handed over to the user: **User's Guide**, **Warranty** and **Troubleshooting Diagnosis.**

PRIOR OPERATIONS:

- Disconnect the battery.
- Dismount the evaporation unit cover.

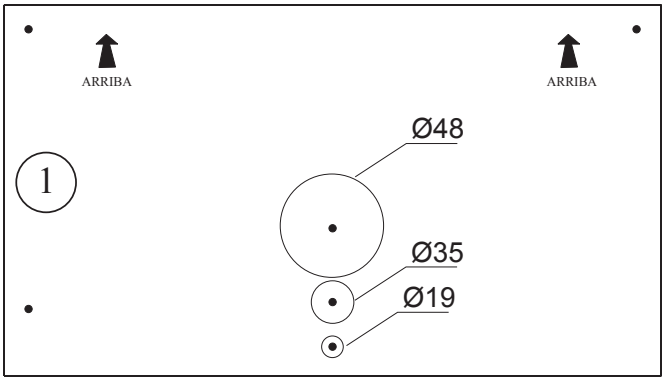
1

CABIN INTERIOR:

Introduce the template supplied and mark bores.

A- If there are 2 beds, place the template between the two.

B- If there is 1 bed, place the template on the bed.



2

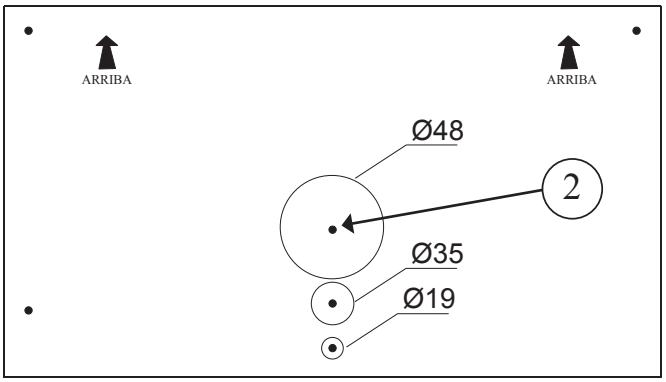
Make through bore Ø4 with long broach in bore position Ø48, and then make the following bores.

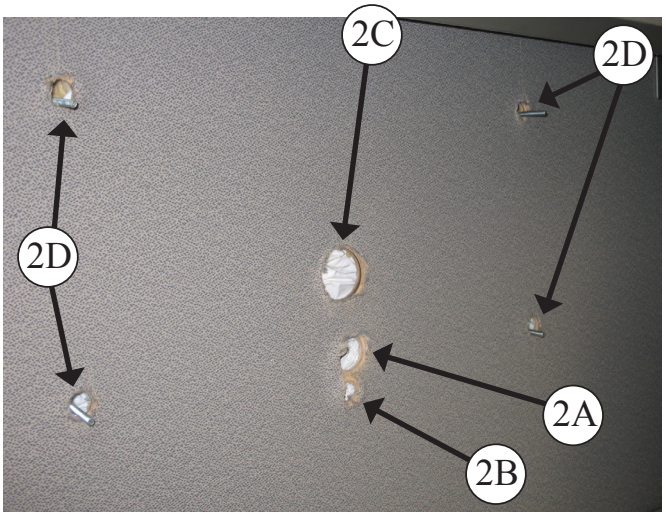
A- make (1) Ø35 in the cover only

B- make (1) Ø19 in the cover only

C- make (1) Ø48 in the cover only

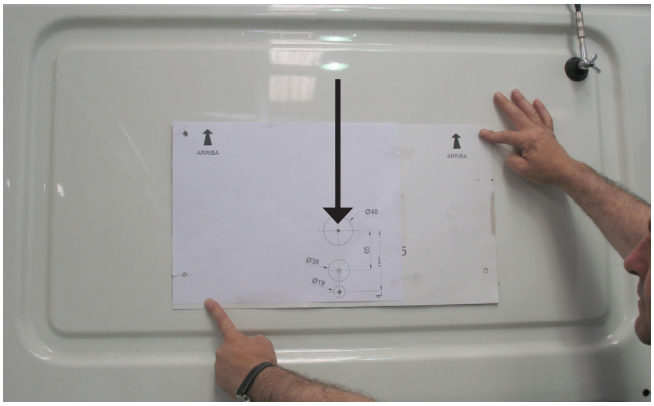
D- make (4) Ø22 in the cover only



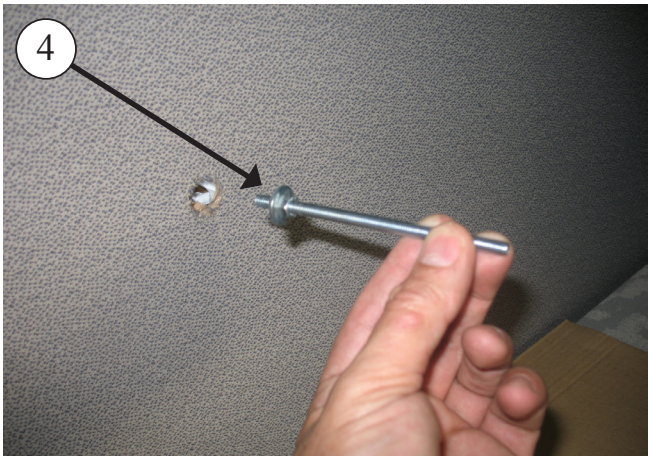


3 **CABIN EXTERIOR:**

Introduce the template level using the exterior, taking as reference the Ø4 bore made, mark and make the remaining bores.



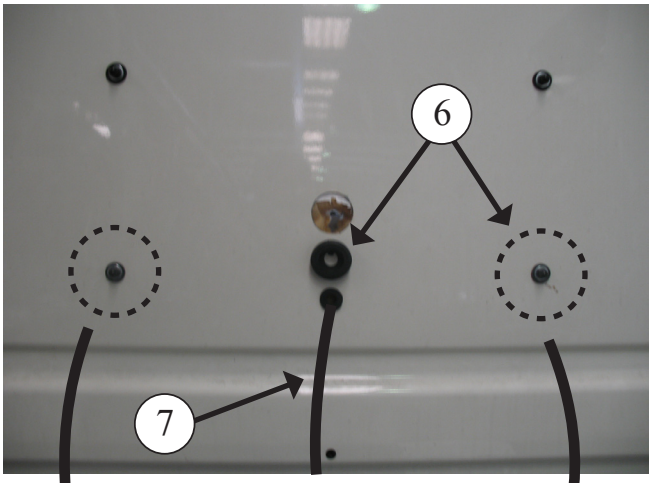
4 Introduce M6 studs in the interior with a nut and washer as indicated.

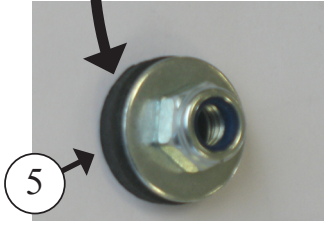


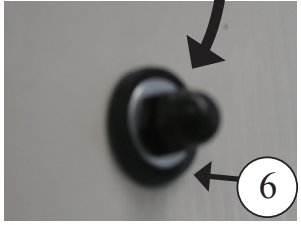
5 Secure the exterior with a rubber washer, a flat washer and a self-locking nut, securing at the bottom with a socket wrench of 10.

6 Position bushing and nut covers.

7 Pass the waste water pipe through the bore of Ø19, through the bushing, towards the inside of the cabin.







OPERATIONS ONLY VALID FOR RENAULT MAGNUM MODELS

PRIOR OPERATIONS:

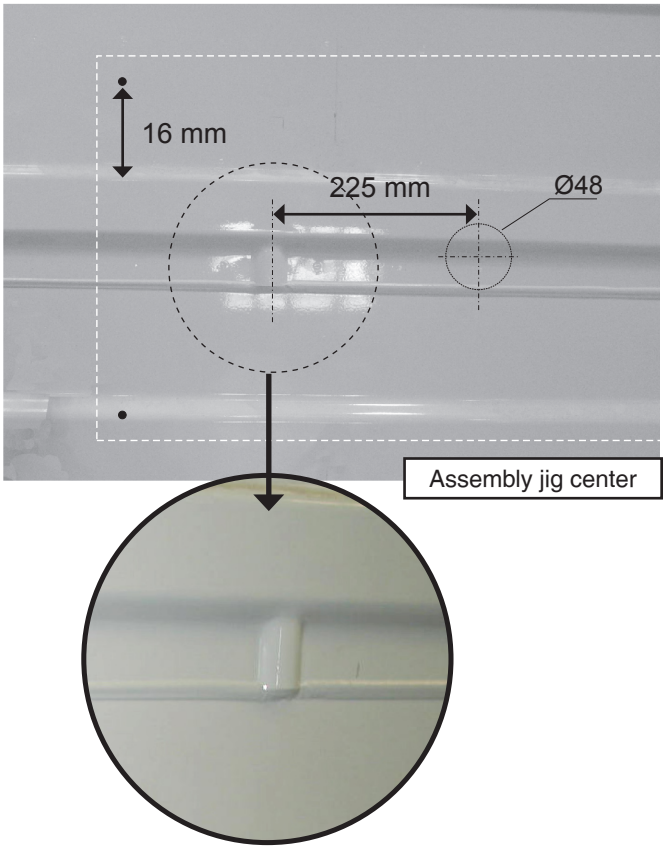
- Disconnect the battery.
- Dismount the evaporation unit cover.

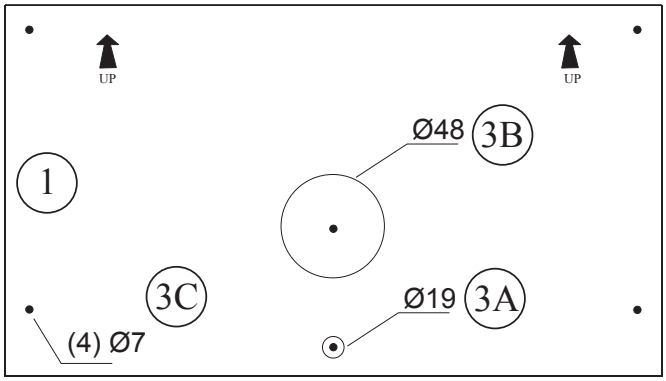
1 **CABIN EXTERIOR:**

Introduce the template supplied in accordance with levels.

2 Mark all the bores.

3 Make through bore Ø4 with long broach in bore position Ø48, and then make the following bores:
A- make (1) Ø19
B- make (1) Ø48
C- make (4) Ø7

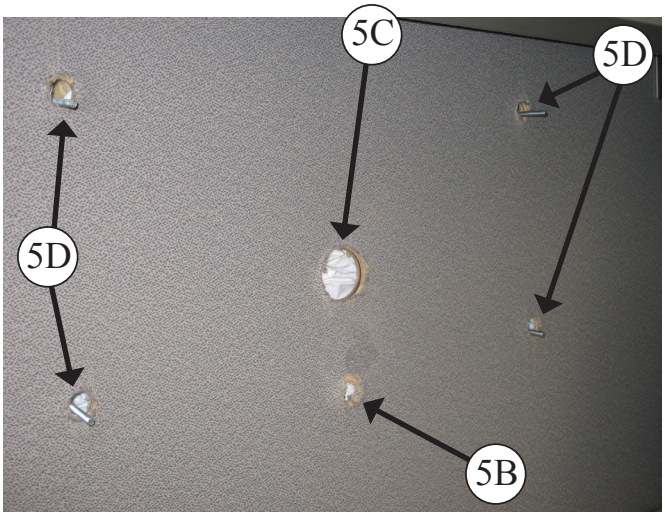




4 **CABIN INTERIOR:**

Introduce the template supplied and mark a bore of Ø48.

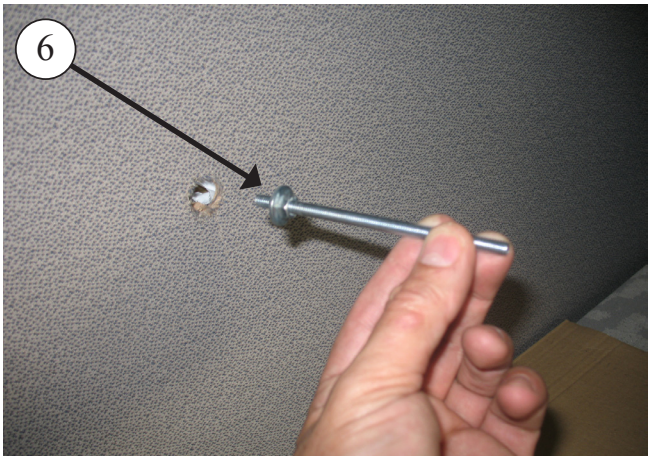
5 Make the following bores:
B- make (1) Ø19 in the cover only
C- make (1) Ø48 in the cover only
E- make (4) Ø22 in the cover only



OPERATIONS ONLY VALID FOR RENAULT MAGNUM MODELS

6 **CABIN EXTERIOR:**

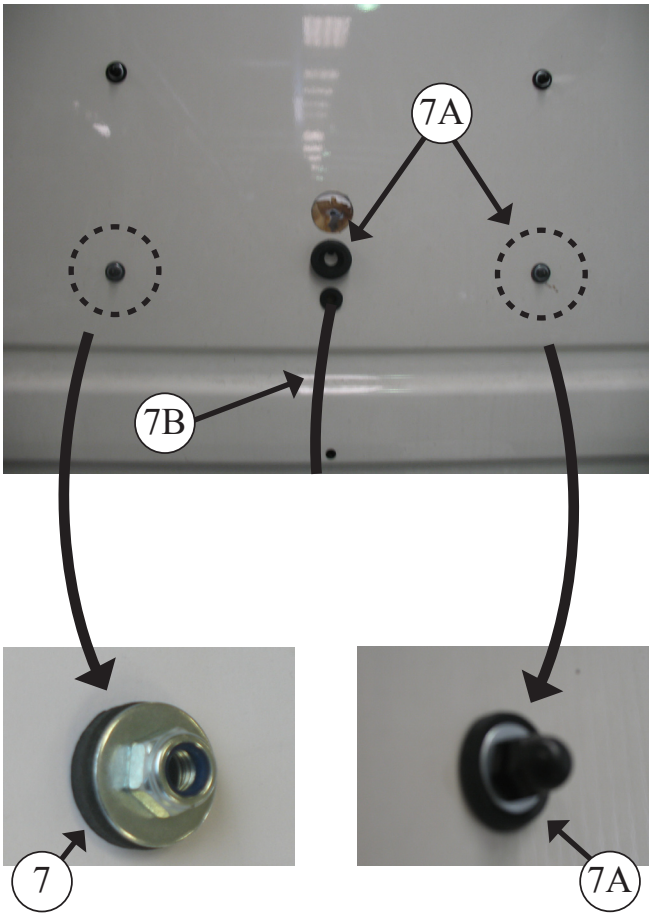
Introduce M6 studs in the interior with a nut and washer as indicated.



7 Secure the exterior with a rubber washer, a flat washer and a self-locking nut, securing at the bottom with a socket wrench of 10.

7A Position bushing and nut covers.

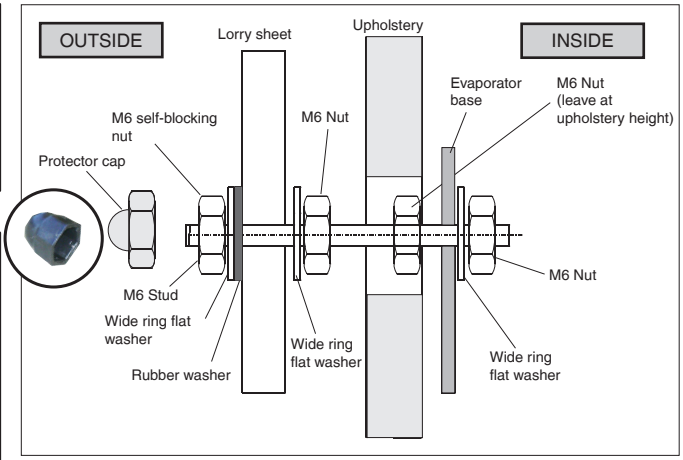
7B Pass the waste water pipe through the bore of Ø19, through the bushing, towards the inside of the cabin.



OPERATIONS VALID FOR ALL MODELS

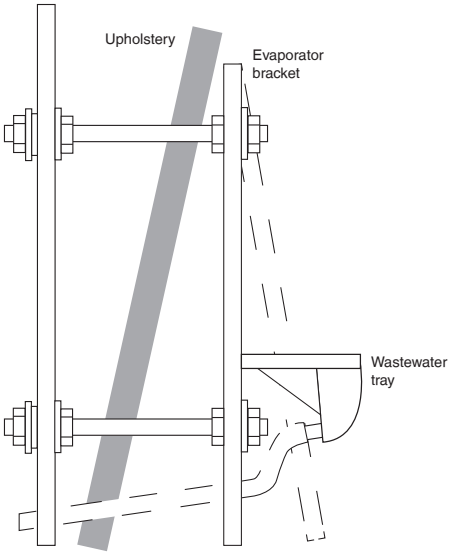
8 On the studs, thread (4) M6 nuts with (4) flat washers Ø 6, which should be level with the cover.

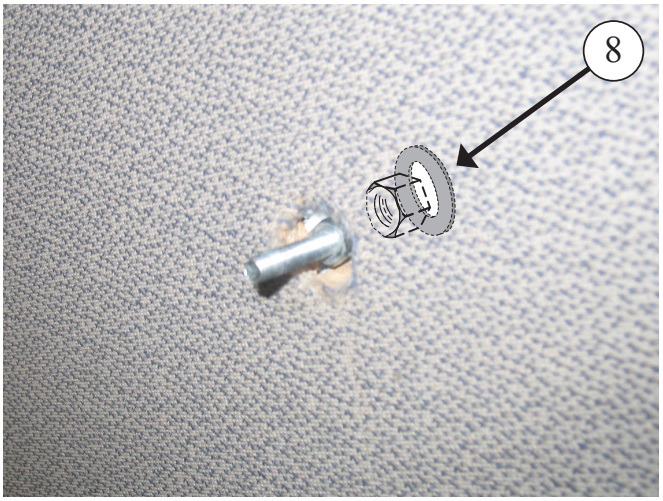
SEE ATTACHED DIAGRAM



VERY IMPORTANT

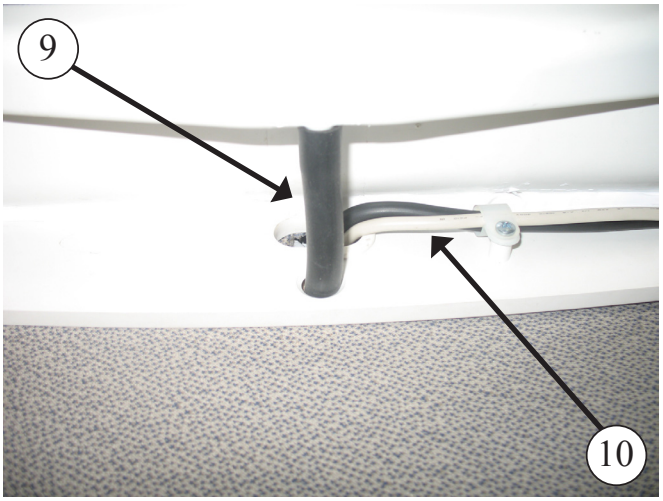
In the case of slanting upholstery, the evaporator unit must be vertical or sloping from the lower section to the outside in order to prevent the condensation water from dropping onto the upholstery.



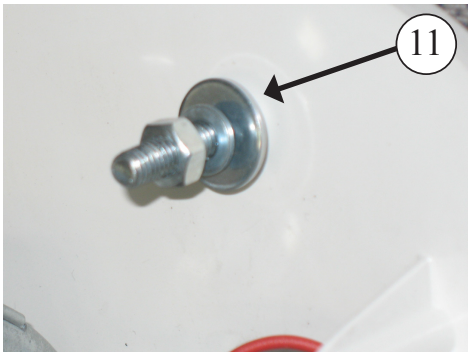


9 Pass the waste water pipe through the bore of the evaporator base and connect to the tray.

10 Pass the cabling through the Ø 35 bore towards the exterior.



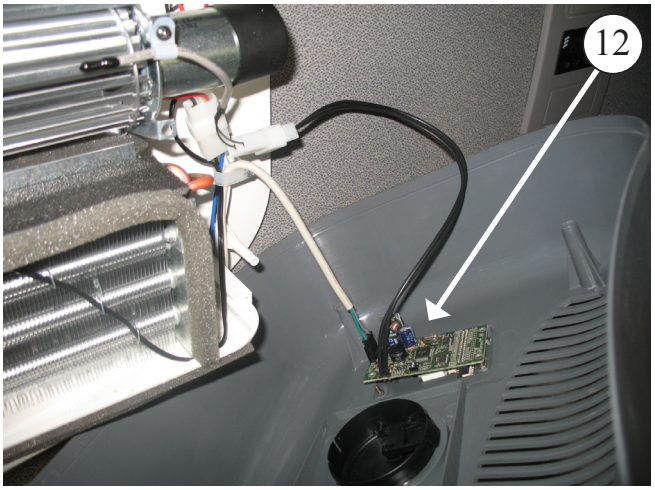
11 Introduce the evaporator base on the studs and secure with (4) flat washers, (4) Grower washers and (4) M6 nuts.



VERY IMPORTANT

The wastewater run-off must be sufficient to prevent water from dropping onto the upholstery.

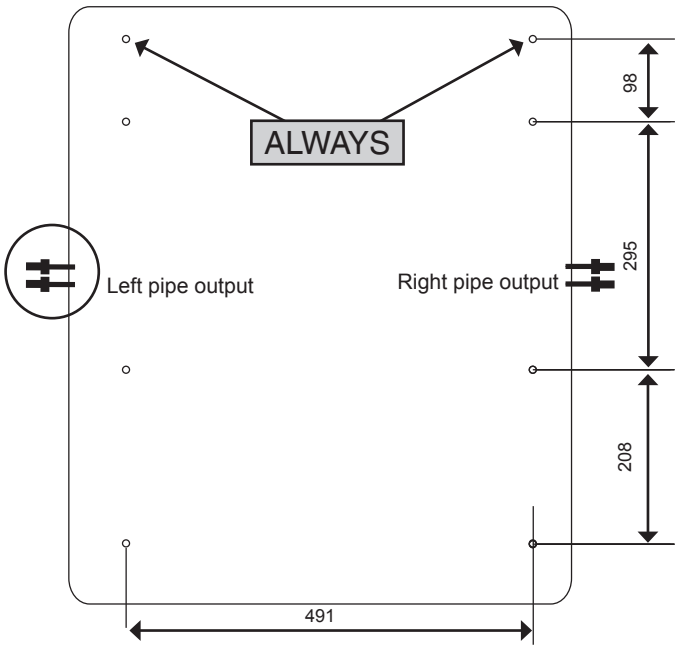
12 Connect recirculation probe and communications wiring.



13	Secure the front with its screws, using a magnetic screwdriver, and position the covers.

CONDENSER ASSEMBLY:

Important: Depending on the vehicle, we can position the pipe outputs on the right or left side.

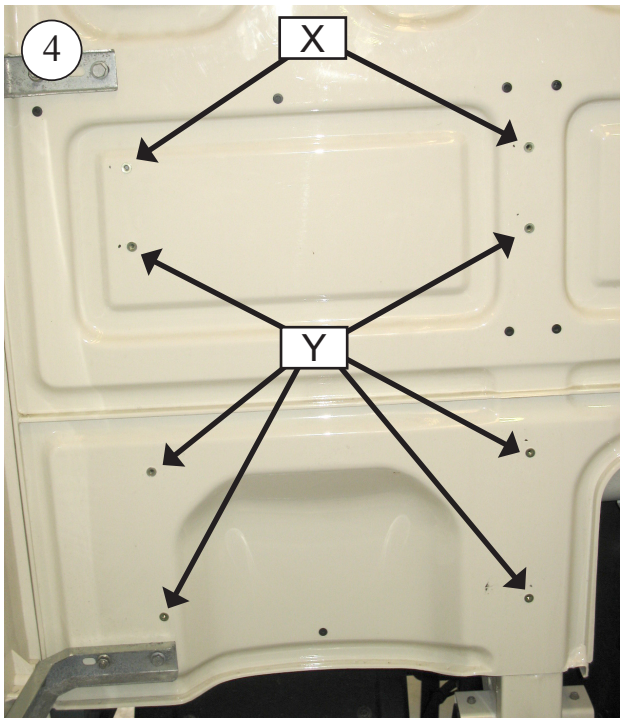


1 **Note:** When the installation is carried out by just one person, mark the bores with the indicated measurements, taking into account the pipe length (from the evaporator to the condenser).

2 Dismount the cover and release the electro-cabling.

3 **If this is carried out by 2 people**, introduce the capacitor base, placing it at the most appropriate part of the rear of the cabin, **taking into account the pipe length from the evaporator to the condenser**, and secure with at least 6 bores.

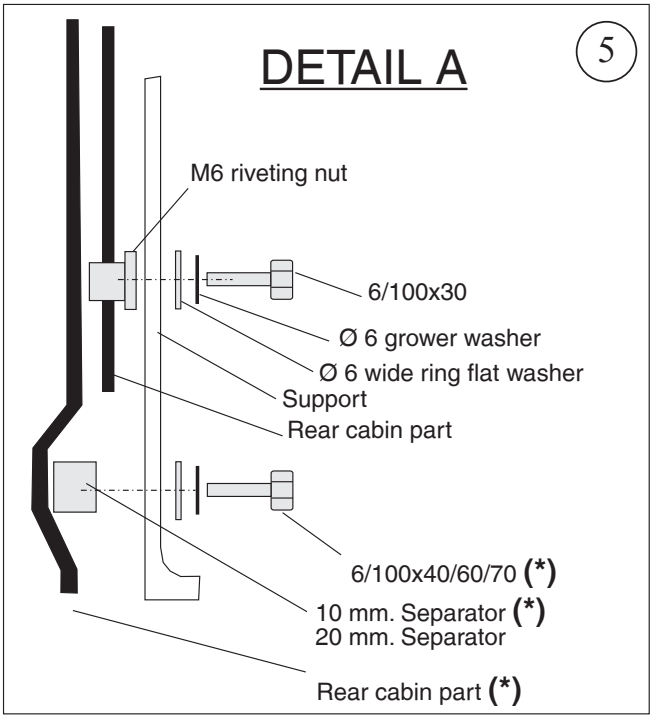
4 First make the (2) upper bores (**X**) at Ø 9, position M6 rivet nuts and position the base with screws 6/100x30, mark and make the rest of the bores (**Y**), position the nuts.



5

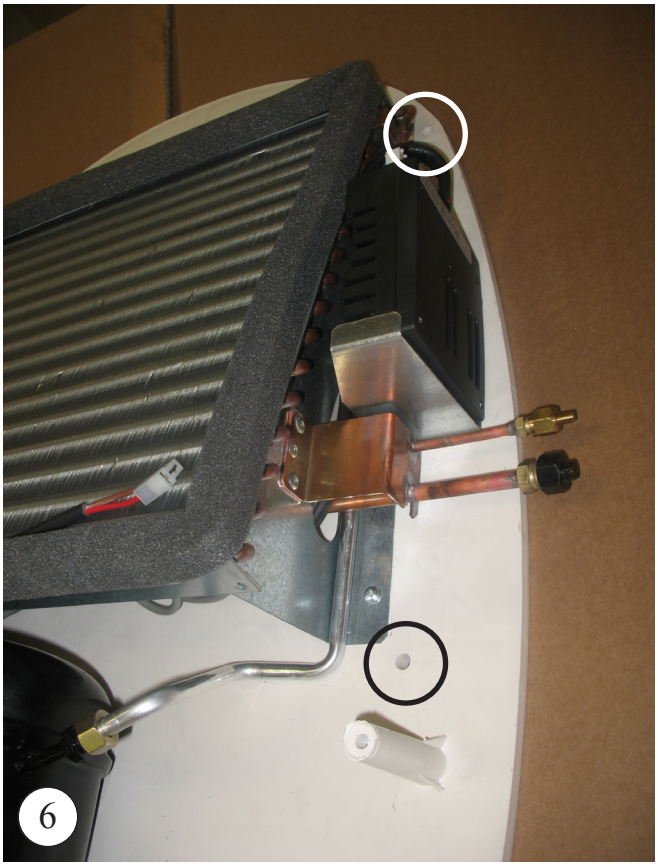
(*)- When not supported on the smooth section, use a 10/20/40 mm separator and 6/100x40/60/70 screw.

SEE DETAILS A

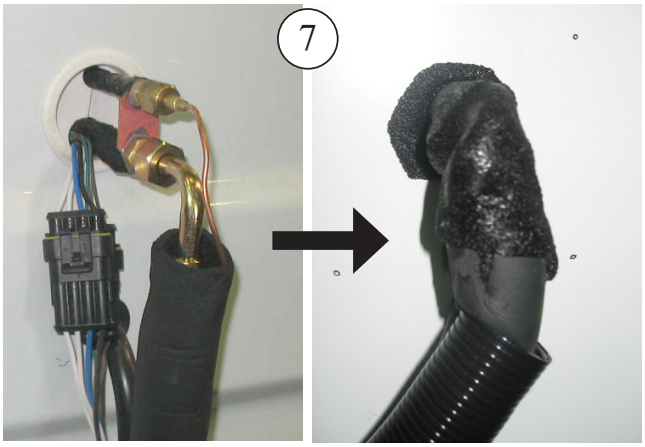


6

Secure the unit with (8) 6/100X30 screws, grower washer and flat washer supported flat.

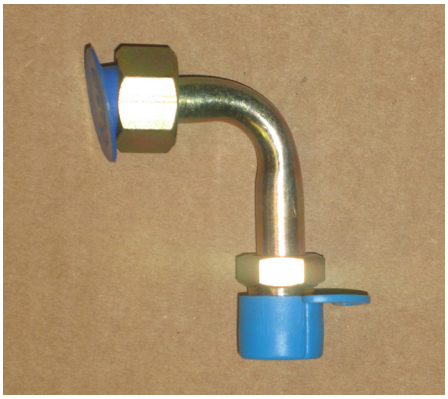


7	Connect cabling and adapters in the evaporator and seal with drip-proof tape.

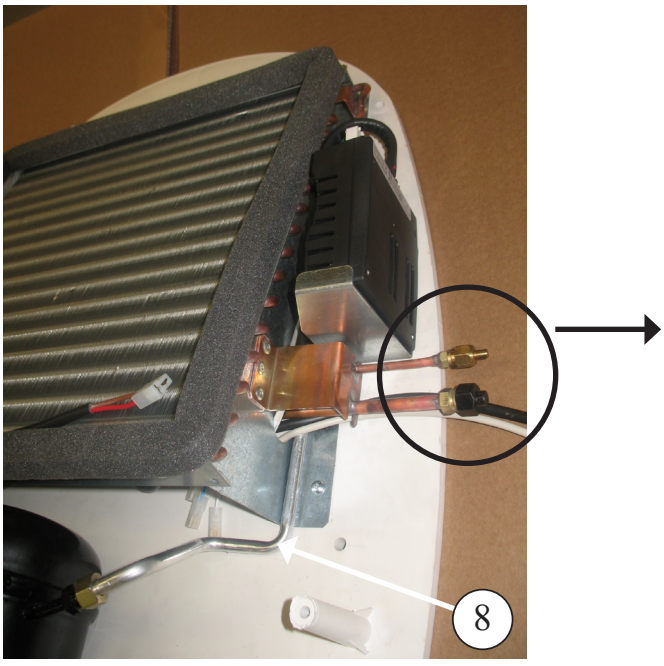


8	Connect pipes and cabling in condensation unit.

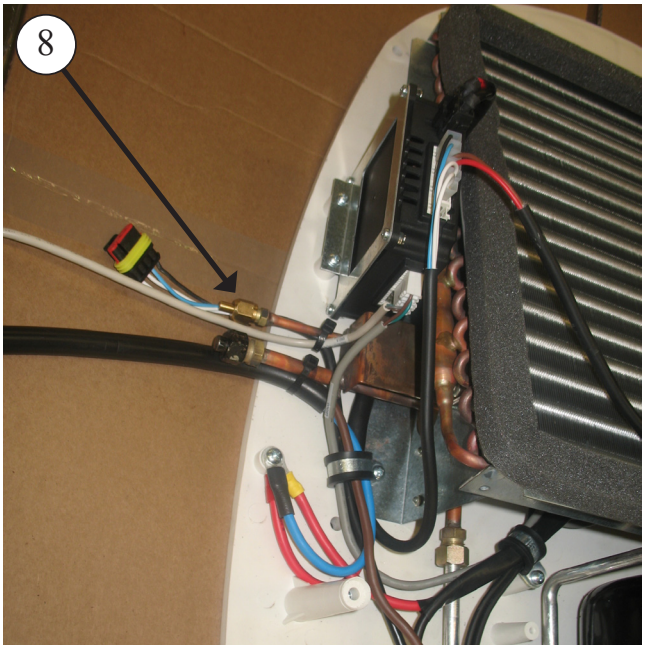
⚠	If it is necessary to position 90 ° hose connection.



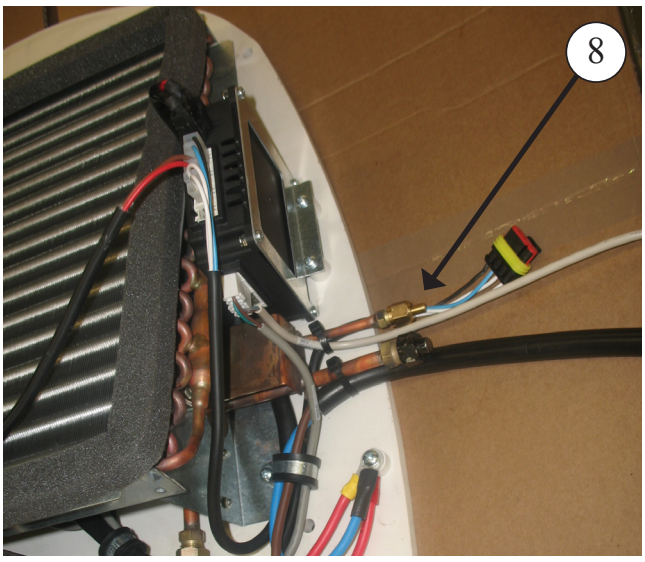
RIGHT SIDE



LEFT SIDE

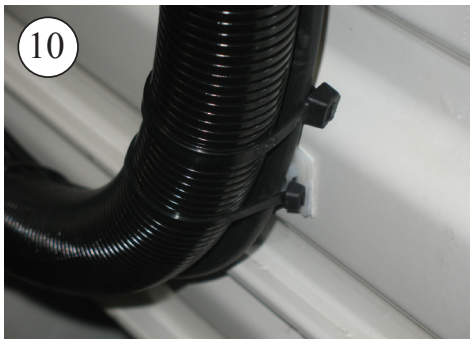


RIGHT SIDE

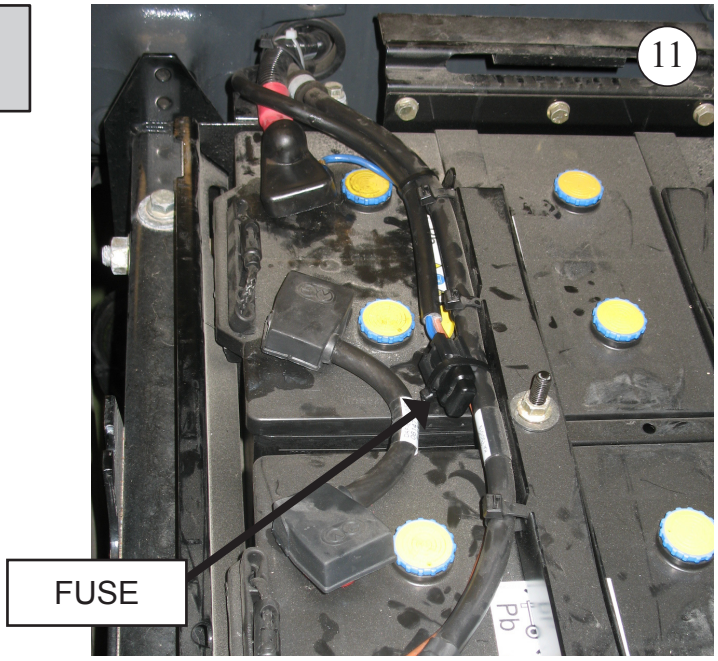


9	Introduce pipe protector with flange, mark and bore at Ø4, and secure with threaded metal screws of 4.8x19mm.

10	Stick the plastic supports and secure the pipe, cabling and wastewater pipe (clean the assembly area).
10a	Position drainage valve.

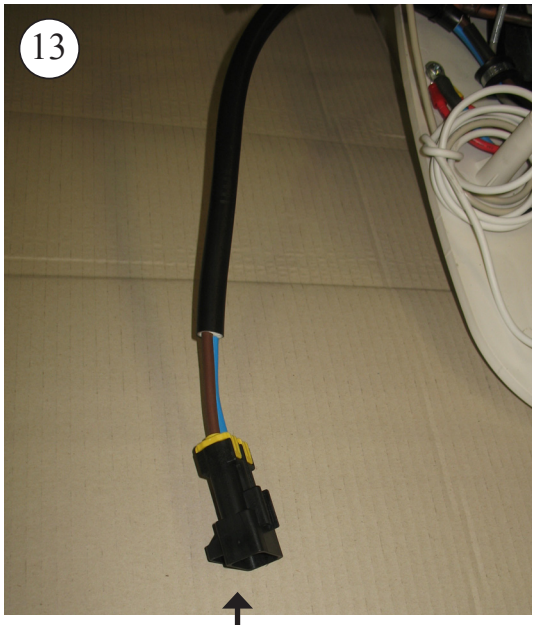


11 Connect power cabling in battery.
TAKE CARE WITH POLARITY.

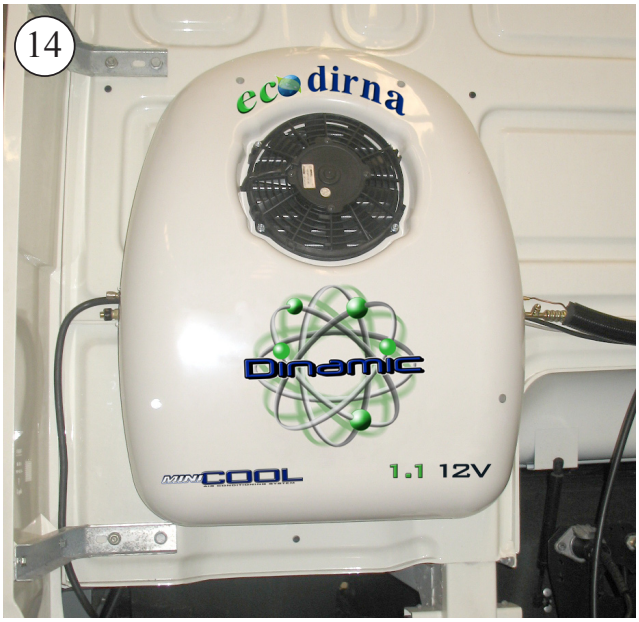


12 Pass the cabling through the most appropriate area towards the condensation unit, securing with clamps or flanges.

13 Connect power cables to the unit.

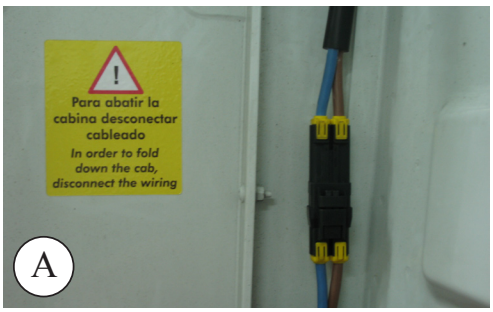


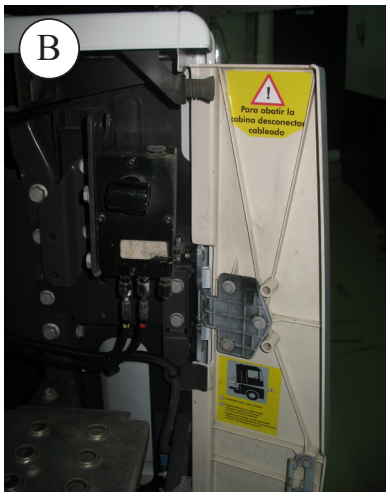
14 Position the cover with the previously dismounted screws.



15 Position adapter protection cover with metal threaded screws 3.1x 11 on the side opposite the pipes.

16 Place danger stickers on the cable join (A) and on the cab elevation device (B).





GAS LOAD:

17 Empty the circuit for at least 30 minutes.

18 Introduce 300 g of gas load R134a and start up the equipment.

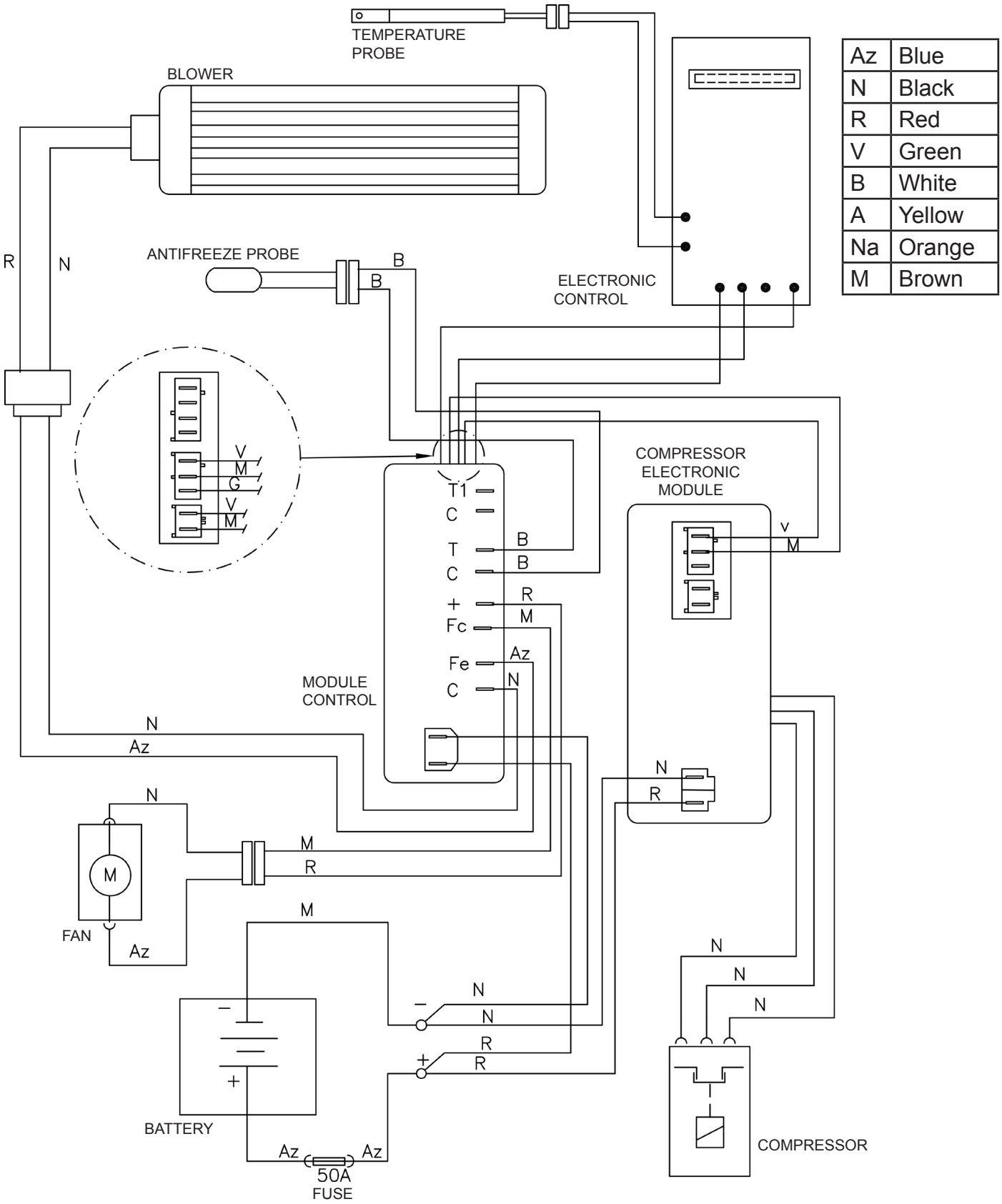
19 **GENERAL VIEW OF THE CONDENSATION UNIT AND PIPING.**

20 **GENERAL VIEW OF THE EVAPORATION UNIT.**

ELECTRIC WIRING

IMPORTANT NOTE!

Take care not to invert the polarities when connecting the equipment to the battery. Should this occur, the electronic control will give out some beeps. **Do not touch any keys on the equipment switchboard or panel**, as this may produce irreparable damage. If you hear the beeps, disconnect the equipment from the battery and check the connection polarity.



RECOMMENDATIONS POUR LE MONTAGE

- **Avant de commencer le montage de l'appareil, prière de lire les instructions et de les suivre attentivement.**
- **Utiliser les outils convenant à chaque opération.**

ELECTRICITY

- **Déconnecter la clé de contact.**
- **Déconnecter la batterie avant de commencer le montage.**
- **Vérifier le câblage des composants électriques et leur correcte installation.**

Outils
Cylindre à cannelures et vanne d'arrêt de 10
Tournevis en étoile TOP 10
Clé plate de 10
Clé plate de 11
Clé plate de 14
Clé plate de 17
Clé plate de 19
Clé allen de 6
Clé à tube de Ø10
Broche Ø 4
Perceuse
Broche Ø6
Scie circulaire Ø19
Scie circulaire Ø22
Scie circulaire Ø48
Ciseaux
Riveteuse M6

DOCUMENTATION QUI EST FOURNIE AVEC L'APPAREIL:

- **Instructions de Montage: 220.AA1.1008**
- **Guide de l'utilisateur: 220.AA1.1002**
- **Solution des problèmes: 220.AA1.1003**
- **Garantie: 220.AA1.0010**

Les indications relatives aux positions sont:
DROITE: Côté passager
GAUCHE: Côté conducteu

Couple de serrage *(N.m)*			
Filet	Qualité d'acier		Clef
	8.8	10.9	
M6/100	10	13	10

Montage de tuyaux		
Couple de serrage *(N.m)*		
Tuyaux	Couple de serrage	Clef
1/4"	13-15	Clef fixe 14mm.
3/8"	15-17	Clef fixe 19mm.

GARANTIE:

• L'installateur devra posséder la formation pertinente en air conditionné sur véhicules.

• **dirna, s.a.**, ne sera pas responsable des dommages ou des bris dérivés d'une installation ou d'une manipulation incorrecte ni des modifications réalisées sans autorisation expresse par écrit.

• **Quantité de charge de gaz réfrigérant R-134a, à introduire dans le circuit: 300 gr.**

• Voir **la procédure de garantie** du produit au **Diagnostic de problèmes**.

• Voir le **Guide de l'Usager** de l'appareil pour le fonctionnement correcte de la télécommande et du tableau de commande.

• Les documents suivants devront être remis à l'usager une fois l'installation terminée: **Guide de l'usager, Garantie et Diagnostic de problèmes.**

OPERATIONS PREVUES:

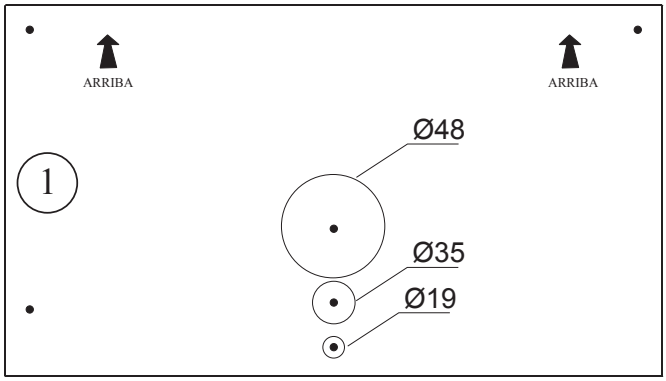
- Démonter batterie.
- Démonter couvercle de l'unité d'évaporation.

1 **PAR L'INTERIEUR DE LA CABINE:**

Présenter le modèle fourni et marquer les perçages.

A- S'il existe 2 berceaux, présenter le modèle entre les deux.

B- S'il existe 1 berceau, présenter modèle au-dessus du berceau.



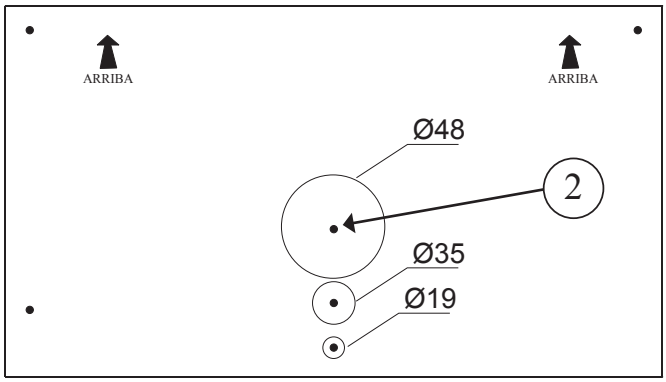
2 Procéder au perçage Ø4 en traversée avec une broche longue en position de perçage Ø48, ensuite effectuer les perçages suivants.

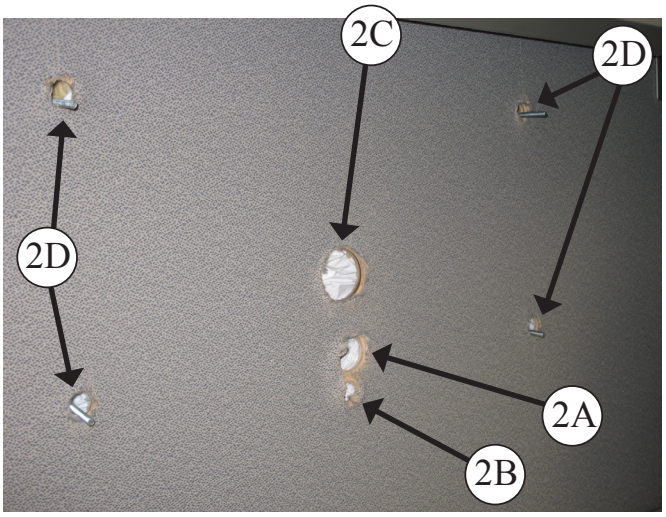
A- Perçage (1) Ø35 seulement dans la tapisserie

B- Perçage (1) Ø19 seulement dans la tapisserie

C- Perçage (1) Ø48 seulement dans la tapisserie

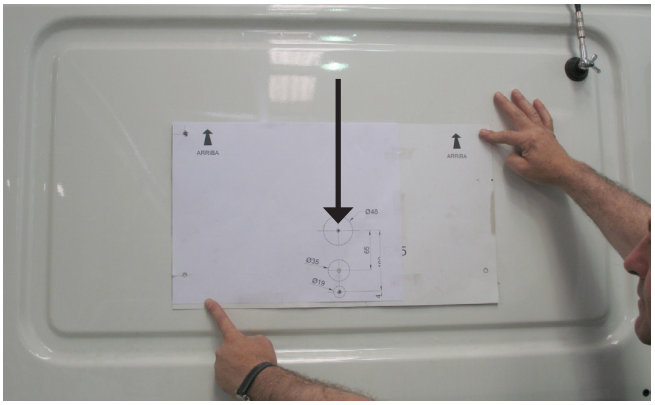
D- Perçage (4) Ø22 seulement dans la tapisserie



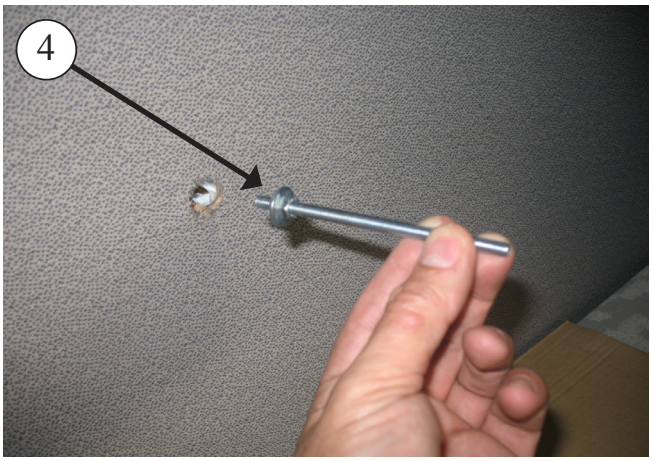


3 **PAR L'EXTERIEUR DE LA CABINE:**

Présenter modèle au niveau par l'extérieur, en prenant pour référence le perçage effectué Ø4 et marquer et effectuer les perçages restant.



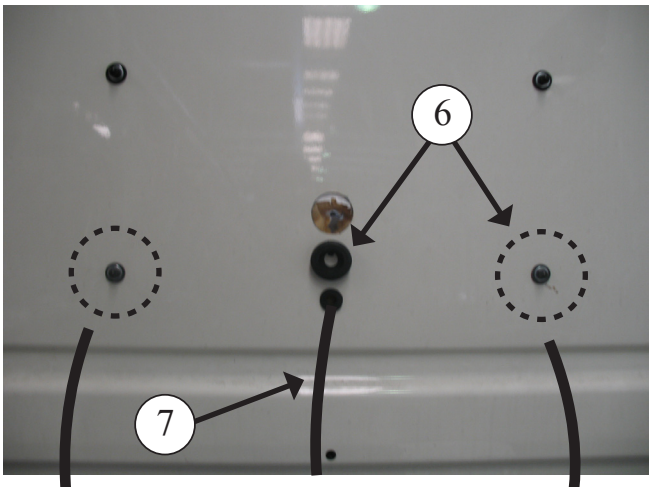
4 Introduire par l'intérieur des goujons M6 avec écrou et rondelle comme indiqué.

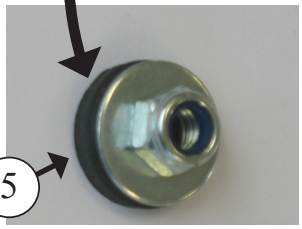


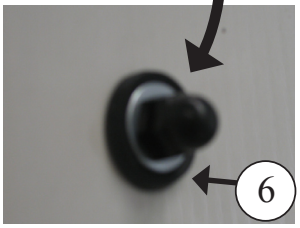
5 Fixer par l'extérieur avec une rondelle en caoutchouc, plane et écrou auto-serrant en fixant par la partie intérieure avec la clé à tube 10.

6 Placer les bouchons des écrous et traversées.

7 Passer le tuyau d'évacuation par le perçage Ø19, la traversée, vers l'intérieur de la cabine.







OPERATIONS VALABLES UNIQUEMENT POUR LE MODELE RENAULT MAGNUM

OPERATIONS PRELIMINAIRES:

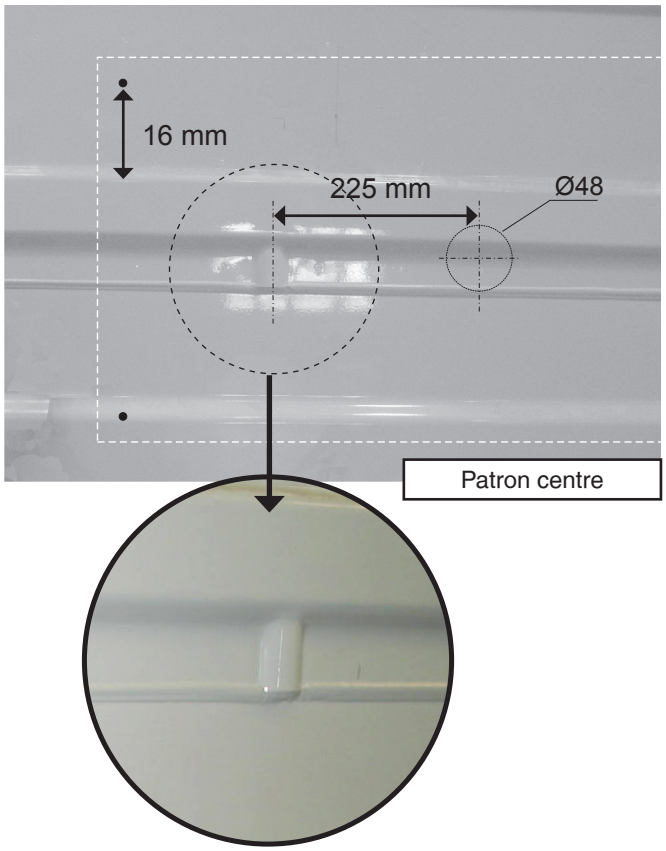
- Déconnecter la batterie.
- Démonter le couvercle de l'unité d'évaporation.

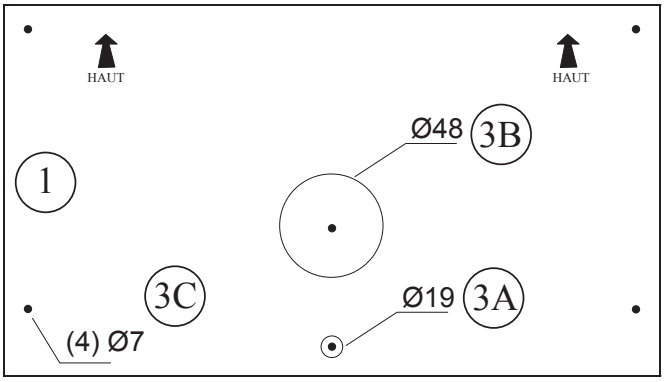
1 **PAR L'EXTERIEUR DE LA CABINE:**

Présenter le modèle fourni selon les cotes.

2 Marquer tous les perçages.

3 Effectuer perçages Ø4 traversée avec broche longue en position perçage Ø48, puis effectuer les perçages suivants:
A- perçage (1) Ø19
B- perçage (1) Ø48
C- perçage (4) Ø7

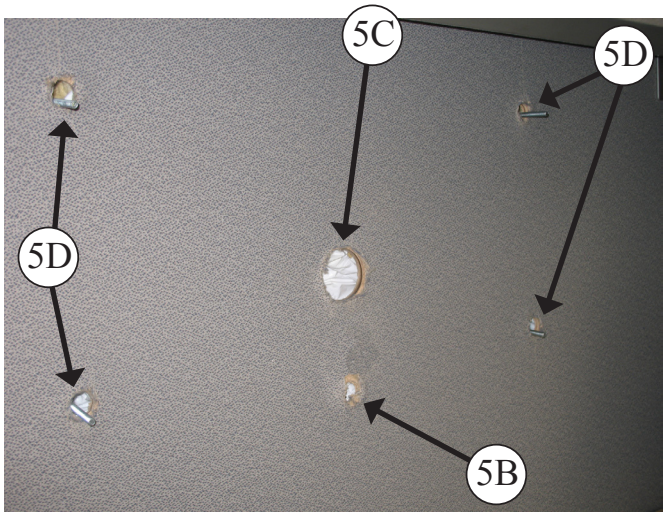




4 **PAR L'INTERIEUR DE LA CABINE:**

Présenter le modèle fourni et marquer les perçages de Ø48.

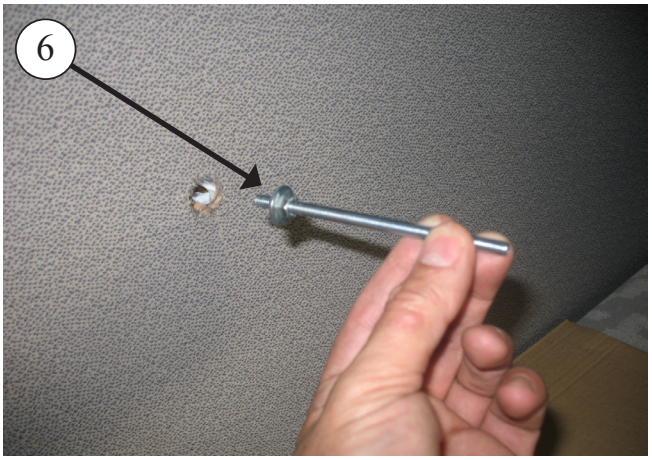
5 Effectuer les perçages suivants:
B- Perçage (1) Ø19 uniquement dans la tapisserie.
C- Perçage (1) Ø48 uniquement dans la tapisserie.
E- Perçage (4) Ø22 uniquement dans la tapisserie.



OPERATIONS VALABLES UNIQUEMENT POUR LE MODELE RENAULT MAGNUM

6 **PAR L'EXTERIEUR DE LA CABINE:**

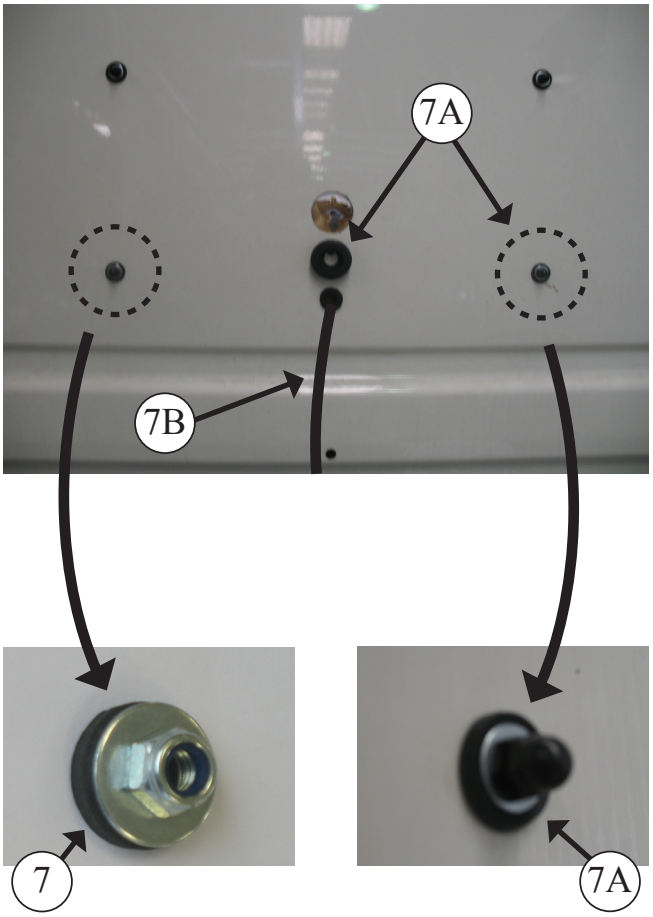
Introduire par l'intérieur des goujons M6 avec écrou et rondelle comme il est indiqué.



7 Fixer par l'extérieur avec une rondelle en caoutchouc, plane et écrou auto-serrant en fixant par l'intérieur avec une clé à tube 10.

7A Placer les bouchons d'écrous et traversées.

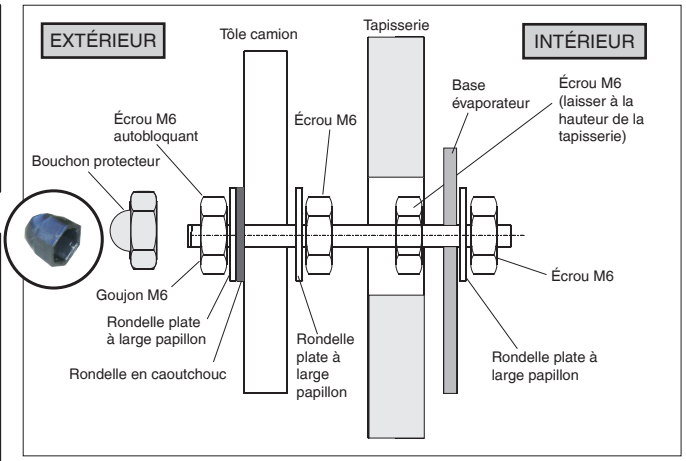
7B Passer le tuyau d'évacuation par le perçage Ø19, la traversée vers l'intérieur de la cabine.



OPERATIONS VALABLES POUR TOUS LES MODÈLES

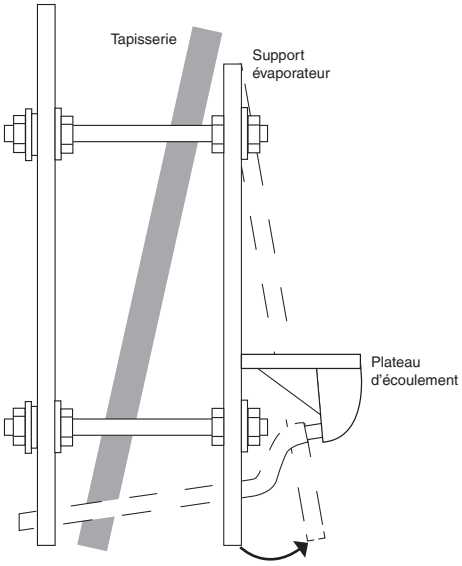
8 Sur les goujons, serrer (4) écrous M6 avec (4) rondelles planes Ø 6 en les laissant à ras de la tapisserie.

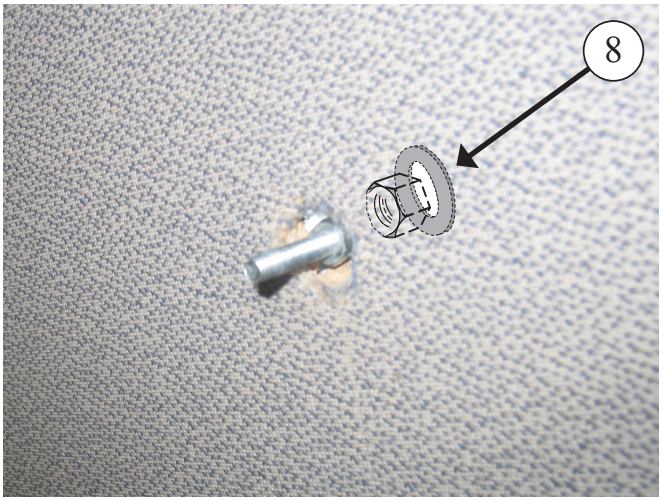
VOIR SCHEMA JOINT



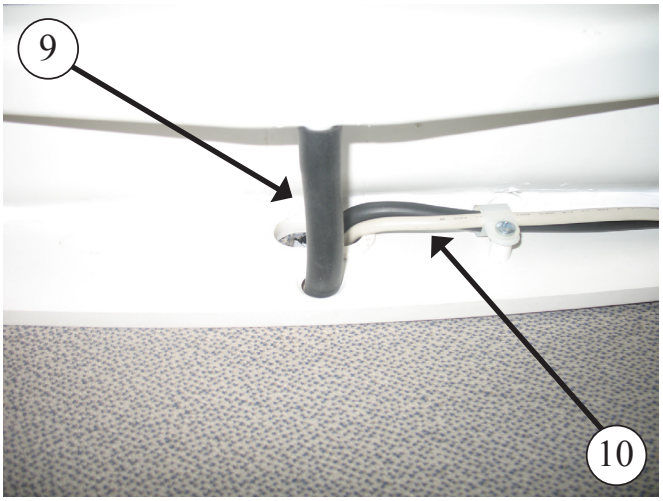
TRÈS IMPORTANT

Dans le cas des tapisseries qui présentent une inclinaison, l'ensemble évaporateur doit rester vertical ou incliné depuis la partie inférieure vers l'extérieur, pour éviter que l'eau de condensation ne tombe sur la tapisserie.



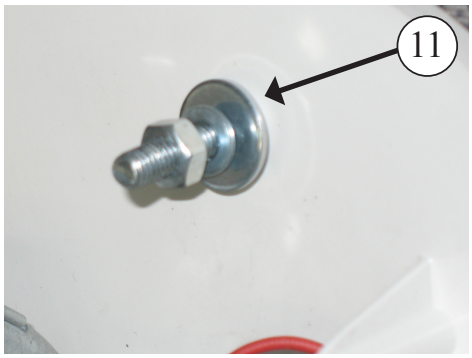


9 Passer le tuyau d'évacuation par le perçage de la base de l'évaporateur et connecter le bac.



10 Passer les câblages par le perçage Ø 35 vers l'extérieur.

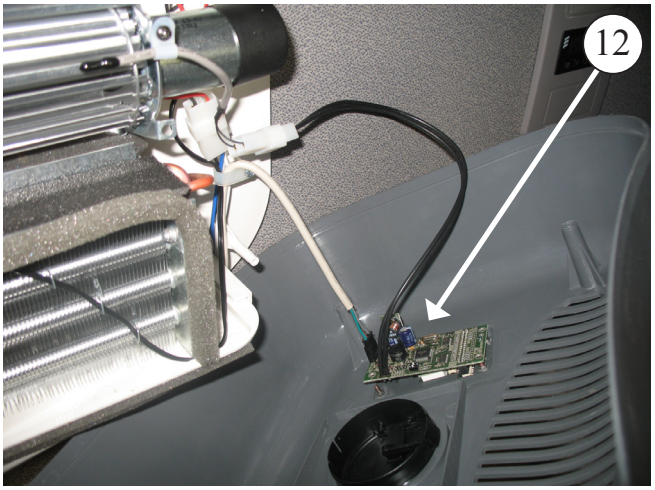
11 Introduire la base évaporateur sur goujons et fixer avec (4) rondelles planes (4) grower et (4) écrous M6.



⚠ **TRÈS IMPORTANT**

L'écoulement doit présenter une chute suffisante pour éviter que l'eau atteigne la tapisserie.

12 Connecter sonde de recirculation et câble de communications.



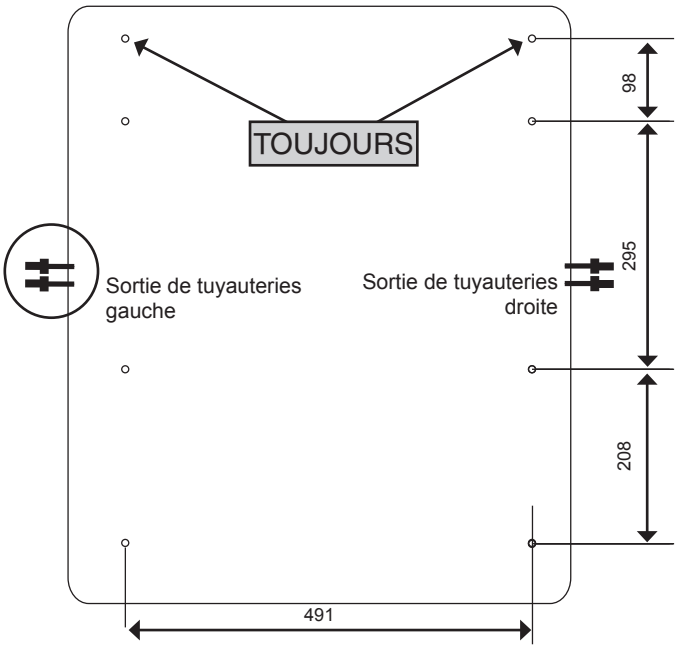
13 Fixer à nouveau la façade avec les vis, à l'aide d'un tournevis aimanté et placer les bouchons.

MONTAGE DU CONDENSATEUR:

Important: En fonction du véhicule, il est possible de placer les sorties des tuyauteries par le côté droit ou par le côté gauche.

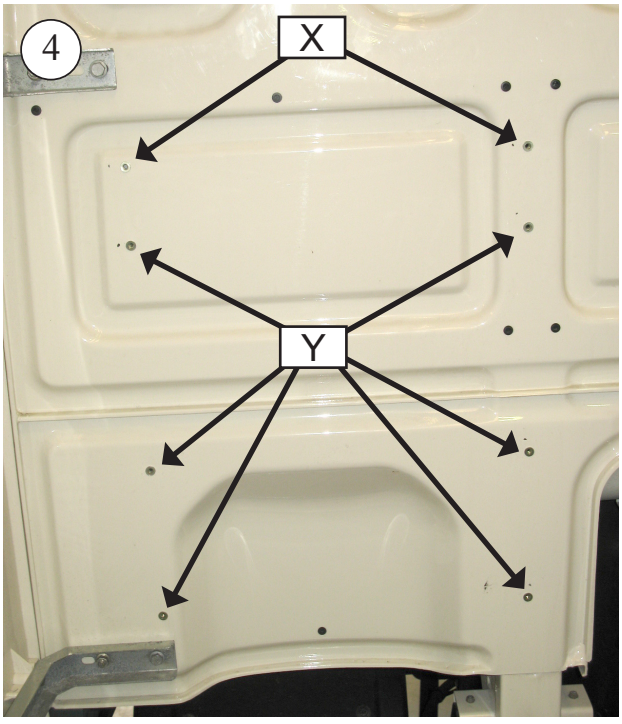
1 **Nota:** Quand l'installation est réalisée par une seule personne, marquer les perçages avec les mesures indiquées, en tenant compte de la longueur de tuyauterie (de l'évaporateur au condensateur).

2 Démonter le couvercle et desserrer le câblage de l'électro.



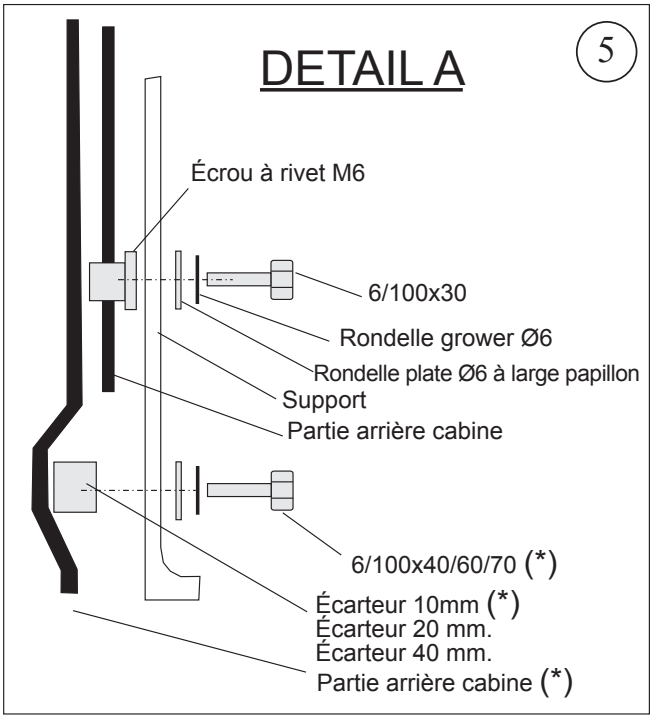
3 **Si cette opération est effectuée par 2 personnes.** Présenter la base du condensateur en la situant par la partie arrière de la cabine qui conviendra le mieux, **en tenant compte de la longueur de la tuyauterie depuis la sortie de l'évaporateur au condensateur**, et établir un minimum de 6 perçages.

4 Effectuer d'abord les (2) perçages supérieurs **(X)** à Ø 9, placer les écrous rivet de M6 et positionner la base avec des vis 6/100x30 marquer et effectuer le reste des perçages **(Y)**, placer les écrous.

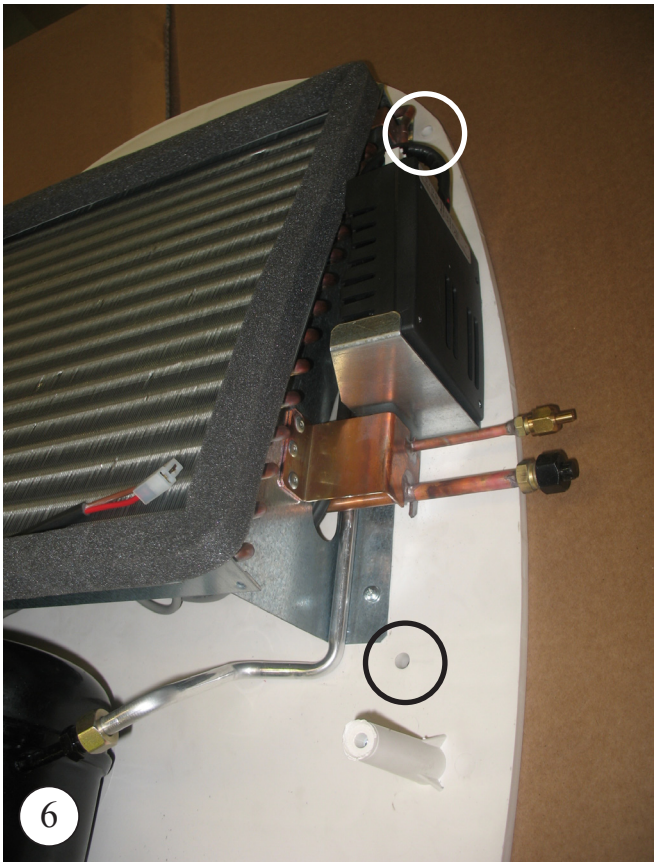


5 (*)- Dans les cas où l'appui ne se fait pas sur la partie lisse, placer un séparateur de 10/20/40 mm et une vis 6/100x40/60/70.

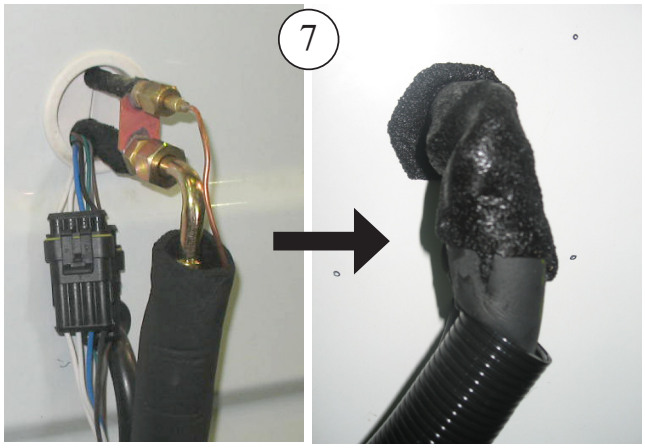
VOIR DETAIL A



6 Fixer l'unité avec (8) vis 6/100X30, rondelle grower et plane.

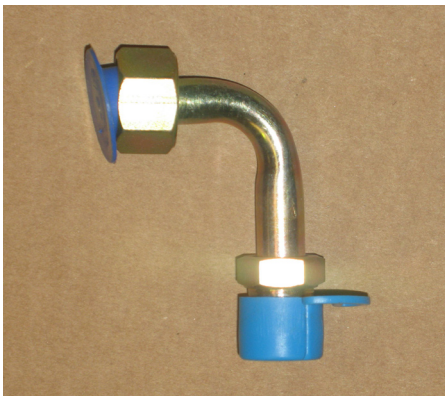


7	Connecter le câblage et les raccords sur l'évaporateur et sceller avec ruban anti-égouttement.

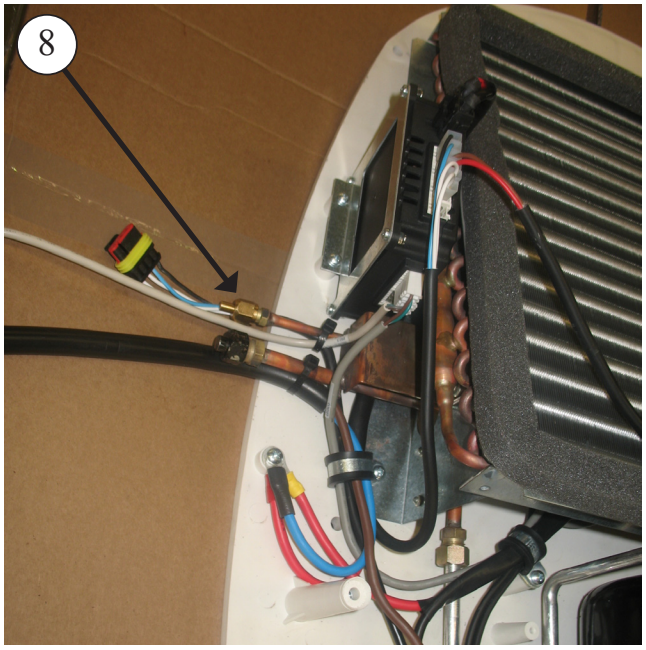


8	Connecter les tuyauteries et câblage dans l'unité de condensation.

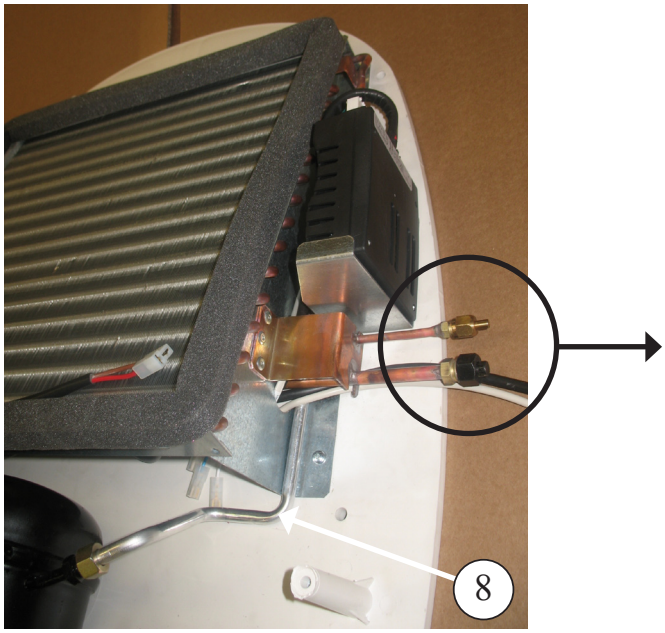
⚠	Si il est nécessaire de positionner le tuyau de connexion 90 °.



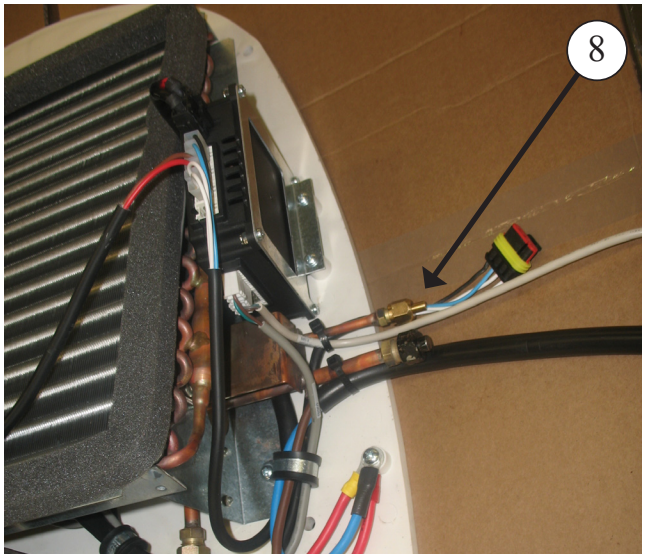
CÔTE GAUCHE



CÔTE DROIT

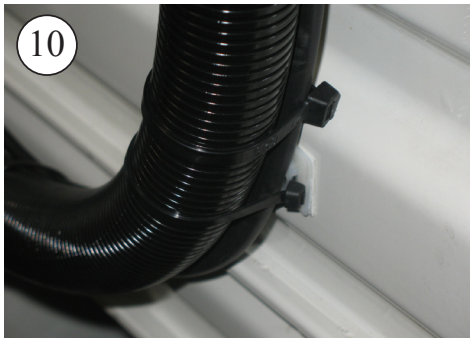


CÔTE DROIT

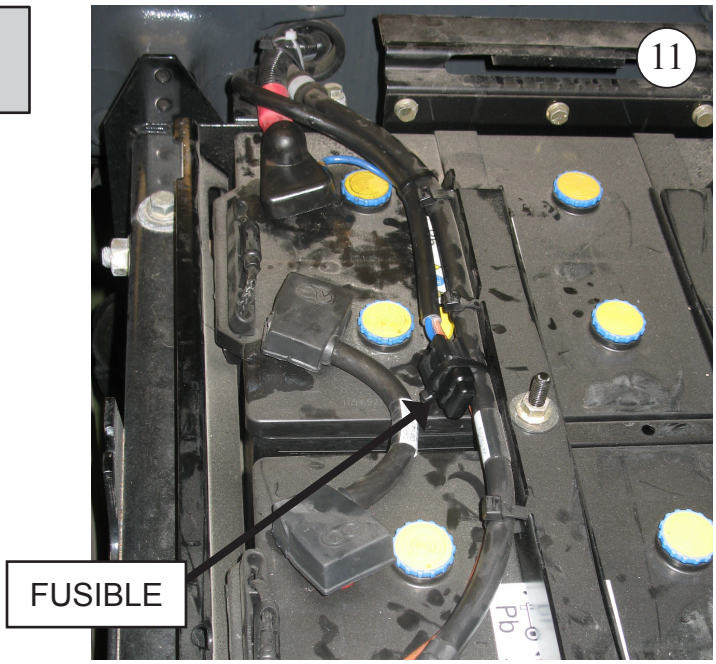


9	Présenter le protecteur de tuyaux avec joint, marquer et percer à Ø4 puis fixer avec des vis taraudeuse à tôle 4,8x19mm.

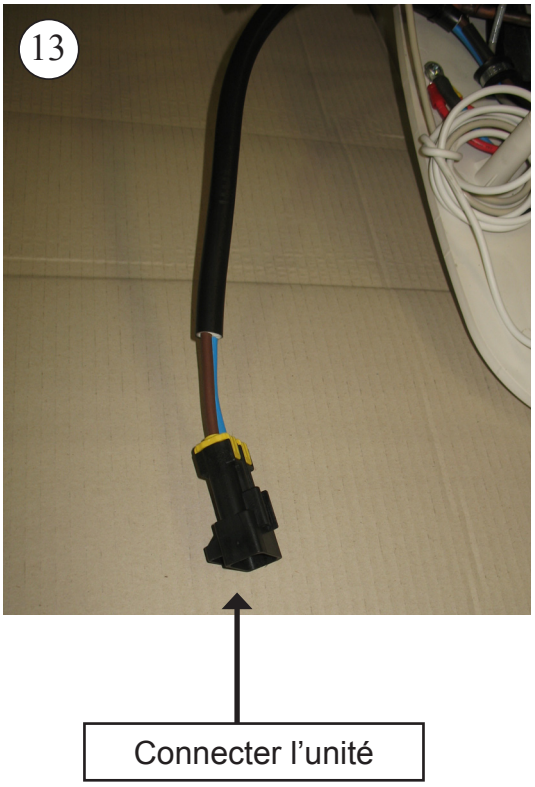
10	Coller les supports en plastique et fixer la tuyauterie, les câblages et le tuyau d'évacuation (nettoyer zone de montage).
10a	Placer vanne de drainage.



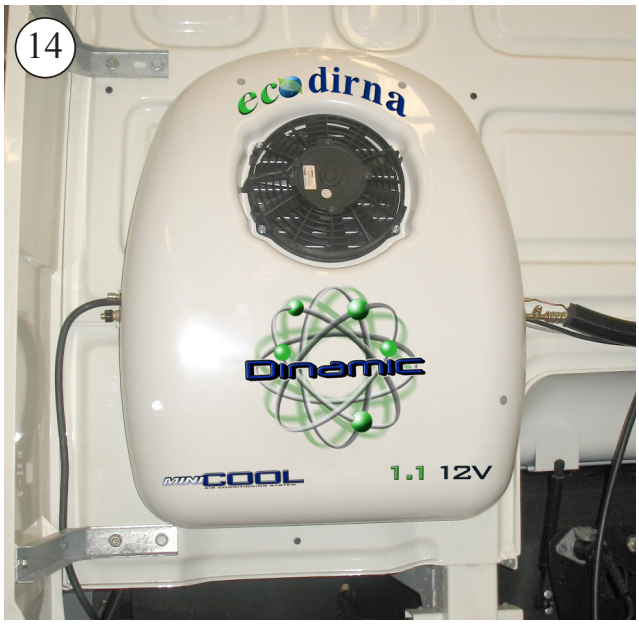
11	Connecter sur batterie câblage d'alimentation **ATTENTION À LA POLARITE**



12	Passer le câblage par la zone la plus indiquée vers l'unité de condensation, en fixant avec des brides.
13	Connecter le câblage d'alimentation à celui de l'unité.

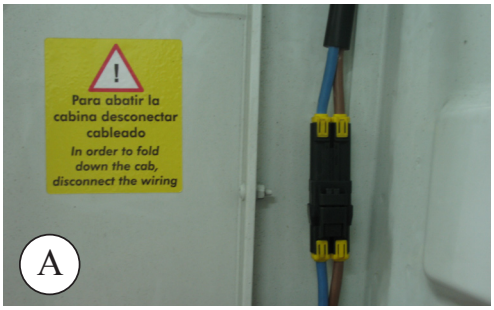


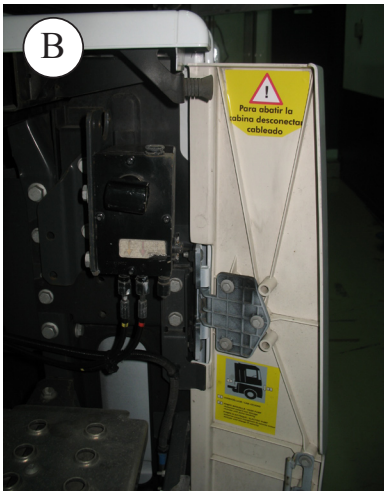
14 Placer le couvercle à vis démonté précédemment.



15 Placer le couvercle de protection de raccords avec des vis taraudeuses à tôle 3,1x 11 du côté opposé à la tuyauterie.

16 Placer des adhésifs de danger à l'union de câblage (A) et sur le dispositif d'élévation de la cabine (B).





CHARGE DE GAZ:	
17	Vider le circuit durant au moins 30 minutes.

18	Introduire 300 gr de charge de gaz R134a et mettre l'équipement en marche.

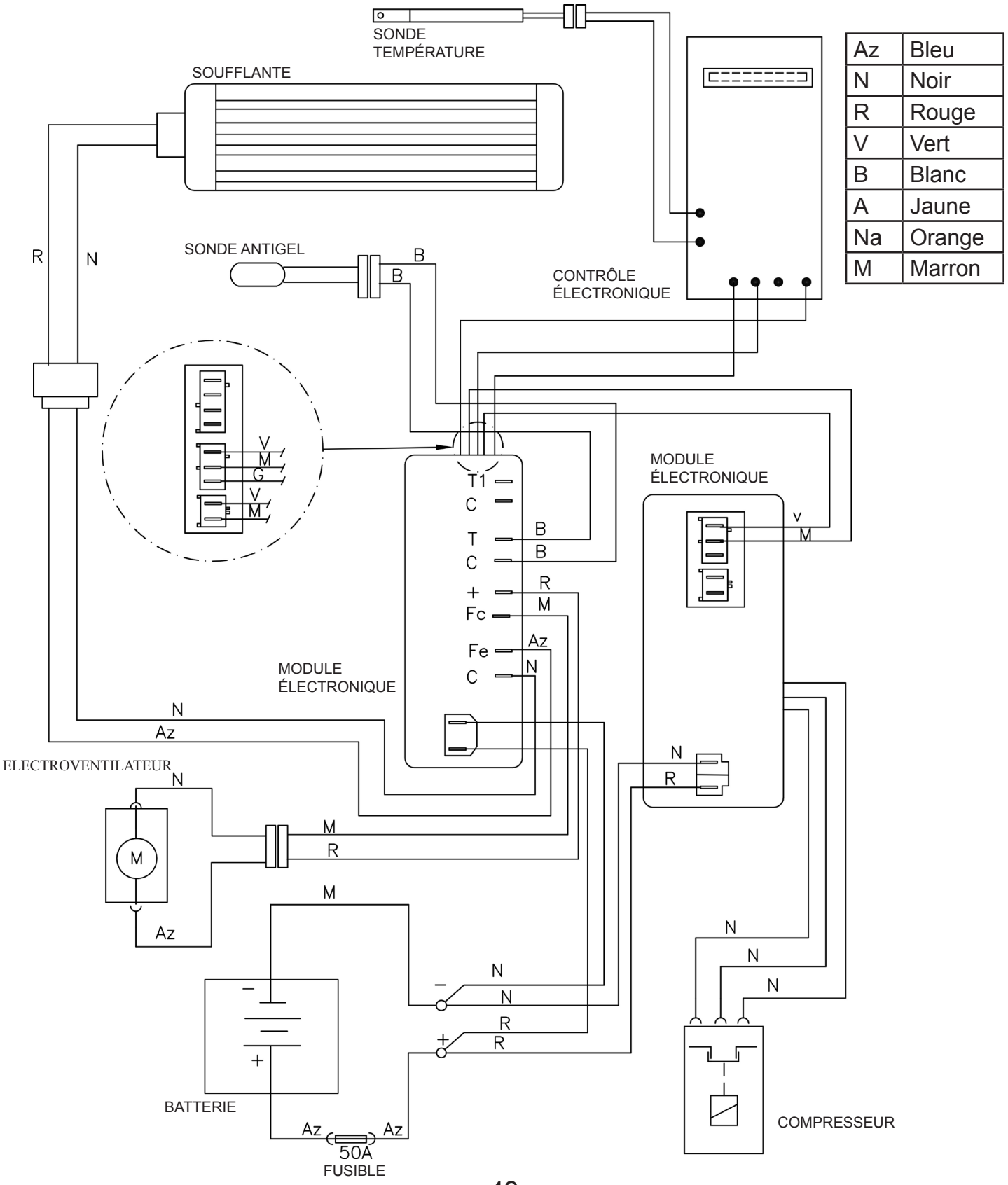
19	**VUE GENERALE DE L'UNITÉ DE CONDENSATION ET TUYAUTERIE.**

20	**VUE GÉNÉRALE DE L'UNITÉ ÉVAPORATRICE.**

SCHÉMA ÉLECTRIQUE

AVIS IMPORTANT!

Veiller à ne pas inverser les polarités en connectant l'équipement à la batterie, car dans ce cas, le contrôle électronique émettra des sifflements discontinus. **Il ne faut toucher aucune touche du tableau ni de la commande de l'équipement** car il pourra se produire des dommages irréparables. Au signal de ces sifflements discontinus, déconnecter l'équipement de la batterie et vérifier la polarité de la connexion.



EMPFEHLUNGEN ZUR MONTAGE

• Vor und während der Montage bitte diese Anweisungen lesen und beachten.

• Benutzen Sie für jeden Arbeitsschritt die geeigneten Werkzeuge.

ELEKTRIZITÄT

• Zündschlüssel ziehen.

• Vor Montagebeginn Batterie abklemmen.

• Ordnungsgemäßen Anschluss und korrekte Installation der Elektrokomponenten überprüfen.

Werkzeuge
Knarre mit Absperrhahn 10
Kreuzschraubendreher TOP 10
Schraubenschlüssel 10
Schraubenschlüssel 11
Schraubenschlüssel 14
Schraubenschlüssel 17
Schraubenschlüssel 19
Innensechskantschlüssel 6
Rohrschlüssel Ø10
Bohrer Ø 4
Bohrmaschine
Bohrer Ø6
Kreissäge Ø19
Kreissäge Ø22
Kreissäge Ø48
Schere
Nietmaschine M6

MITGELIEFERTE UNTERLAGEN:

• Montageanweisungen: 220.AA1.1008
• Benutzerleitfaden: 220.AA1.1002
• Fehlerdiagnose: 220.AA1.1003
• Garantie: 220.AA1.0010

Angaben zur Position:
RECHTS: Beifahrerseite
LINKS: Fahrerseite

Anzugsdremoment *(N.m)*			
Gewinde	Stahlqualität		Maulweite
	8.8	10.9	
M6/100	10	13	10

Schläucheanleitung		
Fitting Driving Torque		
Schläuche	Fitting Driving Torque	Werkzeug
1/4”	13-15	14er-Maulschlüssel
3/8”	15-17	19er-Maulschlüssel

WARNHINWEISE:

• Der Installateur muss im Bereich Fahrzeug-Klimaanlagen ausreichend geschult sein.

• **dirna, s.a.** übernimmt keine Verantwortung für Schäden oder Brüche aufgrund einer nicht ordnungsgemäßen Installation oder Bedienung des Geräts oder den Austausch von Teilen bzw. Umbauten, die ohne die erforderliche schriftliche Genehmigung durchgeführt wurden.

• In den Kühlkreis zu leitende Füllmenge Kühlgas R-134a: 300 g

• Siehe **Garantieverfahren** des Produkts in der **Fehlerdiagnose**.

• Siehe **Benutzerleitfaden** des Geräts für den ordnungsgemäßen Betrieb der Fernbedienung und des Bedienfelds.

• Die folgenden Unterlagen müssen dem Benutzer nach der Installation ausgehändigt werden: **Benutzerleitfaden**, **Garantie** und **Fehlerdiagnose.**

VORBEREITENDE TÄTIGKEITEN:

- Batterie abschalten.
- Abdeckung Verdampfereinheit abnehmen.

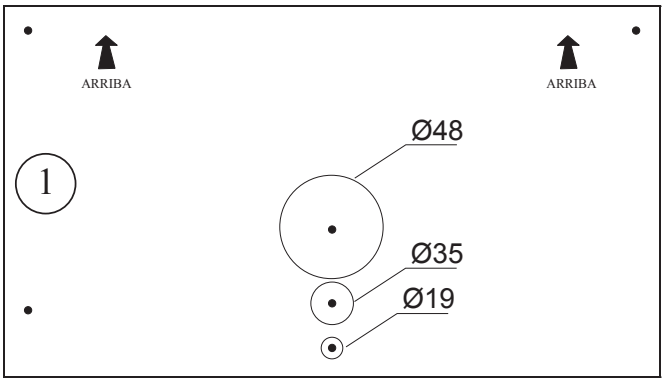
1

AUF DER KABINENINNENSEITE:

Mitgelieferte Vorlage auflegen und Bohrlöcher markieren.

A- Sollten 2 Betten vorhanden sein, die Vorlage zwischen beiden anbringen.

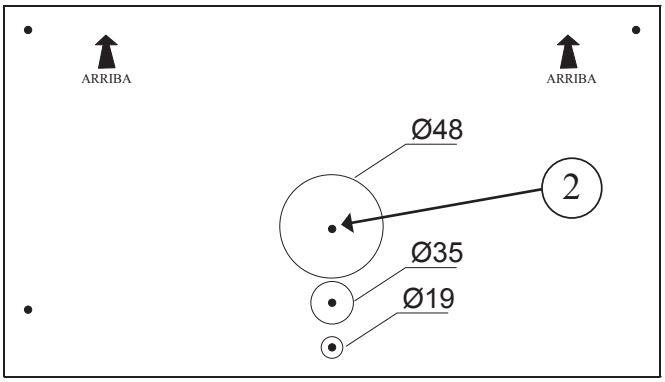
B- Ist nur 1 Bett vorhanden, Vorlage über diesem auflegen.

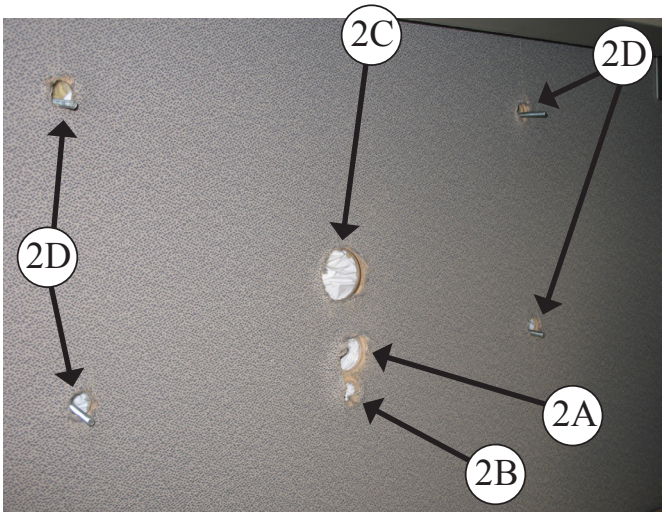


2

Durchgangsbohrung Ø4 mit langem Bohrer in Position der Bohrung Ø48 durchführen, danach die folgenden Bohrungen durchführen.

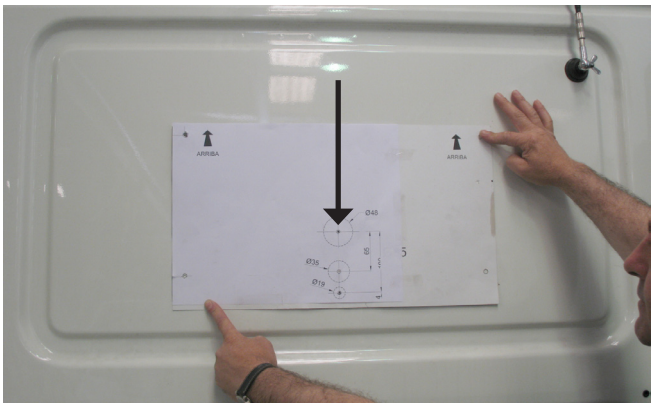
A. (1) Ø35 nur im Bezug durchführen
B. (1) Ø19 nur im Bezug durchführen
C. (1) Ø48 nur im Bezug durchführen
D. (4) Ø22 nur im Bezug durchführen



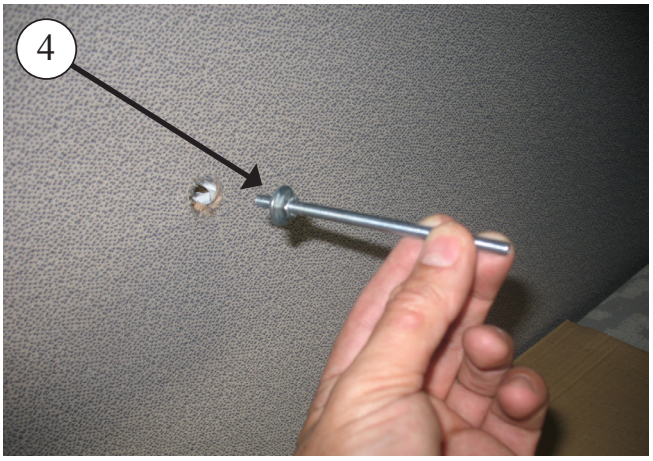


3 **AUF DER KABINENAUSSENSEITE:**

Vorlage auf gleicher Höhe von der Außenseite auflegen, dabei als Referenz die durchgeführte Ø4 Bohrung nehmen, markieren und die restlichen Bohrungen durchführen.



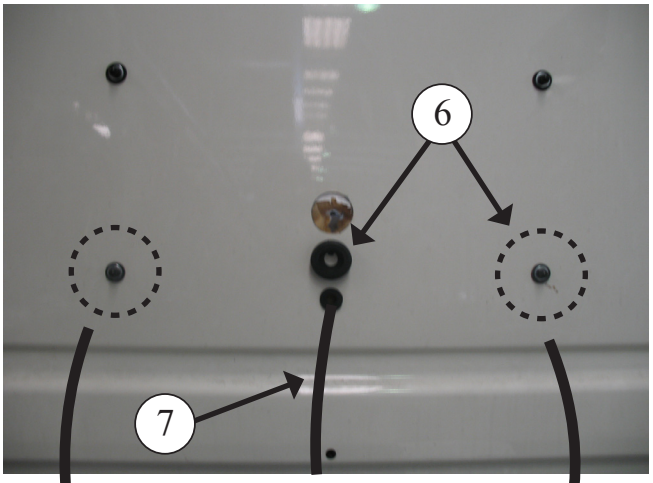
4 Von Innen her Stiftschrauben M6 mit Mutter und Unterlegscheibe wie angegeben einführen.

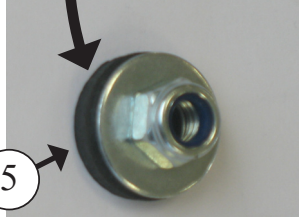


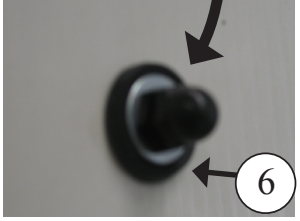
5 Von Außen her mit Gummiunterlegscheibe, Flachscheibe und selbstsichernder Spannmutter befestigen, dabei von Innen her mit Rohrschlüssel 10 halten.

6 Mutterkappen und Wanddurchführung anbringen.

7 Abflussschlauch durch Bohrung Ø19, und Wanddurchführung ins Innere der Kabine führen.







NUR BEI DEN MODELLEN RENAULT MAGNUM DURCHZUFÜHRENDE TÄTIGKEITEN

VORBEREITENDE TÄTIGKEITEN:

- Batterie abschalten.
- Abdeckung Verdampfereinheit abnehmen.

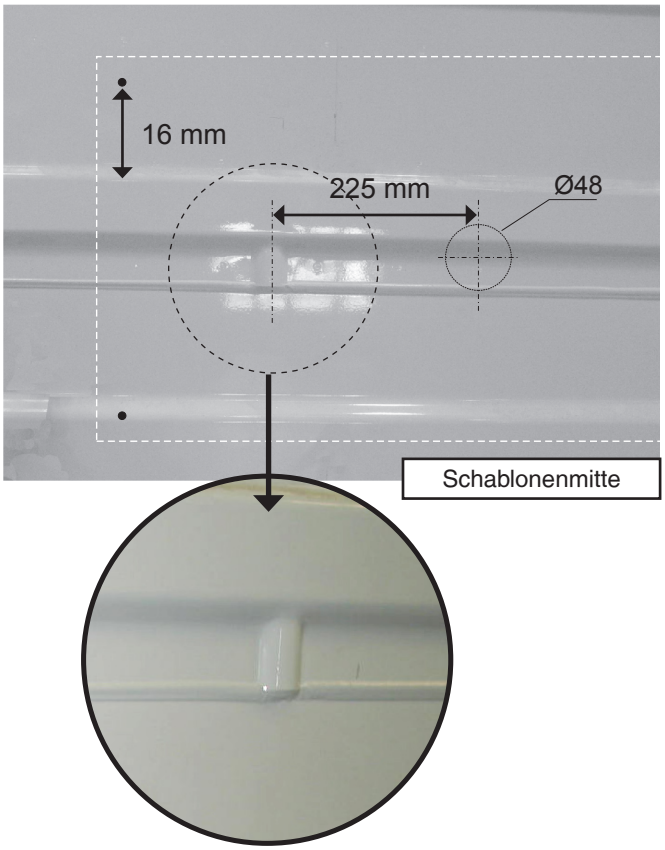
1 **AUF DER KABINENAUSSENSEITE:**

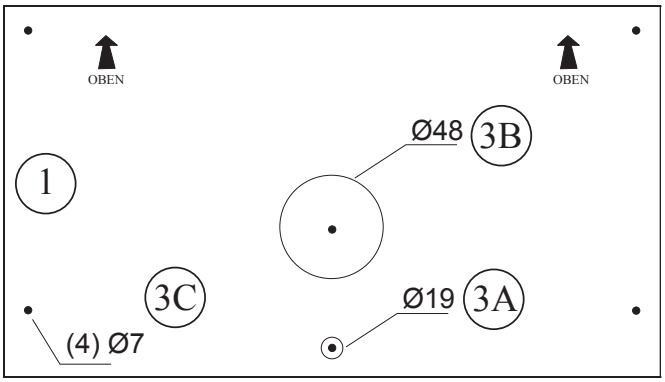
Mitgelieferte Vorlage gemäß Maßen auflegen.

2 Alle Bohrungen markieren.

3 Durchgangsbohrung Ø4 mit langem Bohrer in Position der Bohrung Ø48 durchführen, danach die folgenden Bohrungen durchführen:

A. (1) Ø19 durchführen
B. (1) Ø48 durchführen
C. (4) Ø7 durchführen



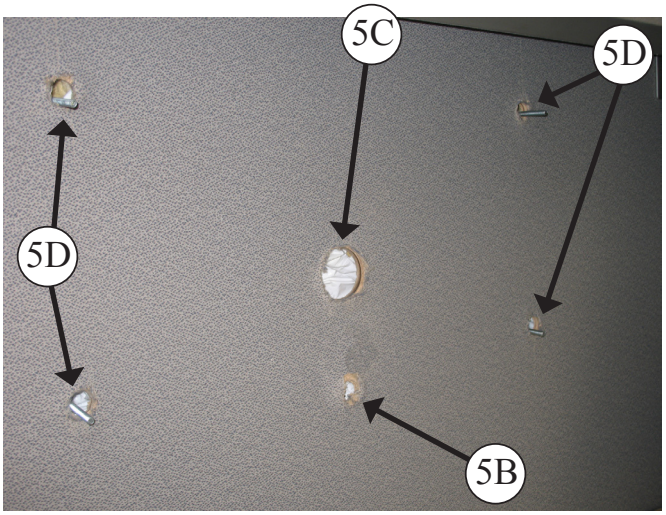


4 **AUF DER KABINENINNENSEITE:**

Mitgelieferte Vorlage auflegen und Bohrung Ø48 markieren.

5 Die folgenden Bohrungen durchführen:

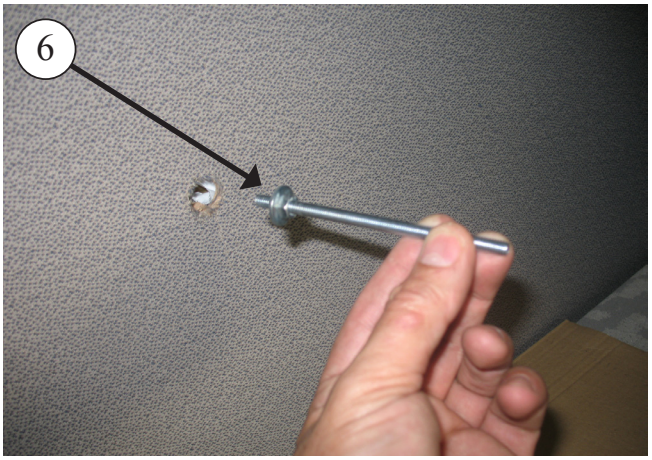
B. (1) Ø19 nur im Bezug durchführen
C. (1) Ø48 nur im Bezug durchführen
E. (4) Ø22 nur im Bezug durchführen



NUR BEI DEN MODELLEN RENAULT MAGNUM DURCHZUFÜHRENDE TÄTIGKEITEN

6 **AUF DER KABINENAUSSENSEITE:**

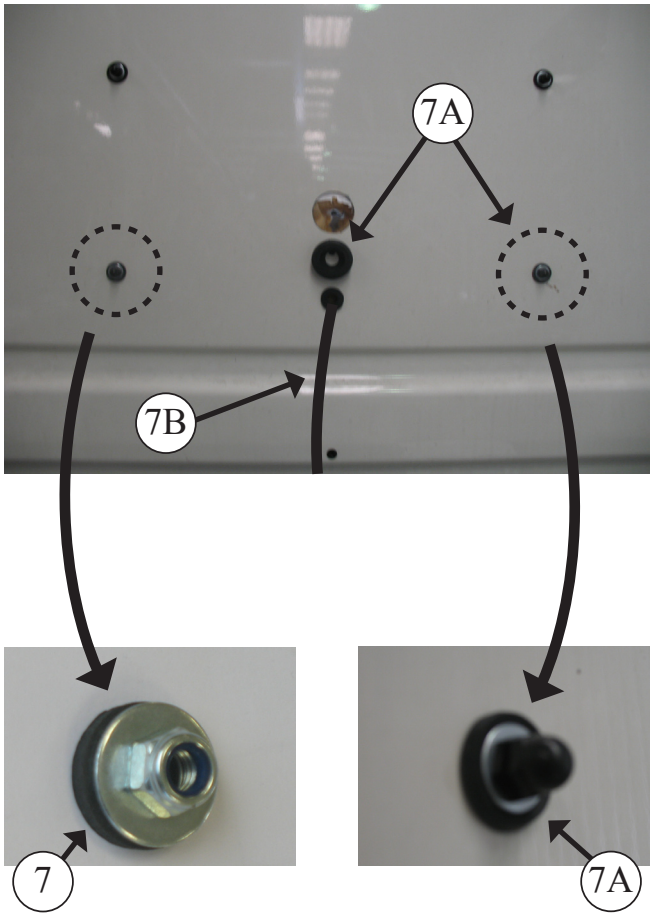
Von Innen her Stiftschrauben M6 mit Mutter und Unterlegscheibe wie angegeben einführen.



7 Von Außen her mit Gummiunterlegscheibe, Flachscheibe und selbstsichernder Spannmutter befestigen, dabei von Innen her mit Rohrschlüssel 10 halten.

7A Mutterkappen und Wanddurchführung anbringen.

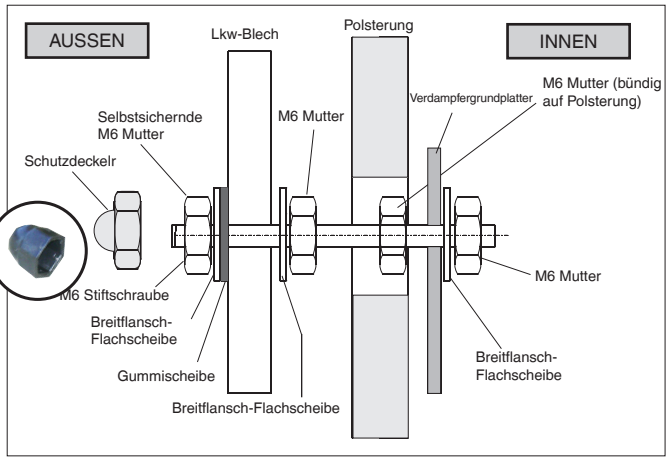
7B Abflussschlauch durch Bohrung Ø19, und Wanddurchführung ins Innere der Kabine führen.



BEI ALLEN MODELLEN DURCHZUFÜHRENDE TÄTIGKEITEN

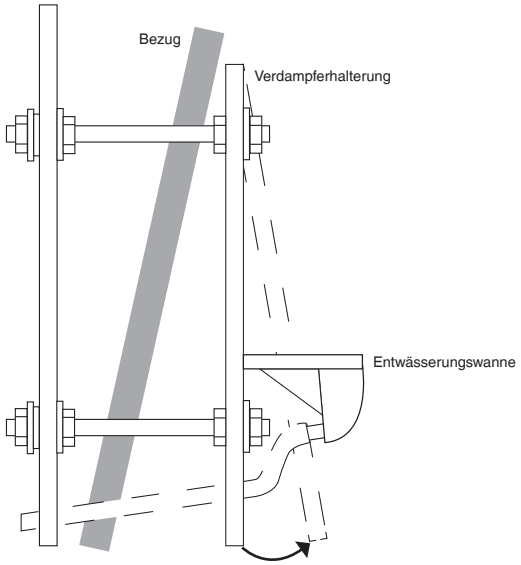
8 (4) Muttern M6 mit (4) Flachscheiben auf die Stiftschrauben schrauben, wobei die Flachscheiben sich auf Höhe des Bezugs befinden müssen.

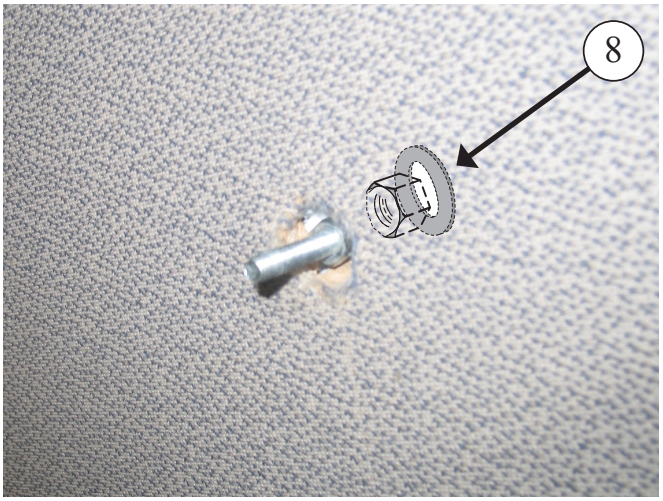
SIE BEILIEGENDE ZEICHNUNG



WICHTIGER HINWEIS

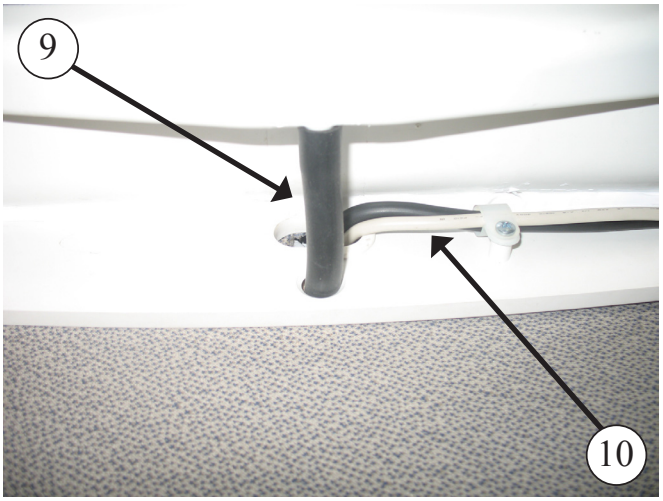
Bei schrägen Bezügen muss die Verdampfergruppe senkrecht oder schräg von unten nach außen liegen, damit dass Kondenswasser nicht auf den Bezug läuft.



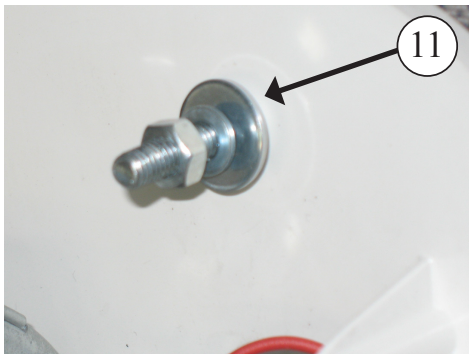


9 Abflussschlauch durch die Bohrung der Verdampferbasis führen und an den Behälter anschließen.

10 Kabel durch die Bohrung Ø 35 nach Außen führen.



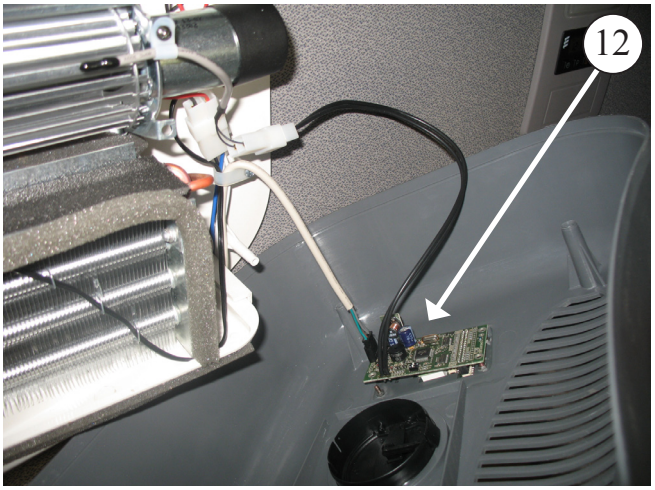
11 Verdampferbasis auf Stiftschrauben stellen und mit (4) Grower-Scheiben (4) und (4) Muttern M6 befestigen.



WICHTIGER HINWEIS

Der Abfluss muss ein ausreichendes Gefälle haben, damit das Wasser nicht auf den Bezug laufen kann.

12 Rückführsonde und Kommunikationskabel anschließen.



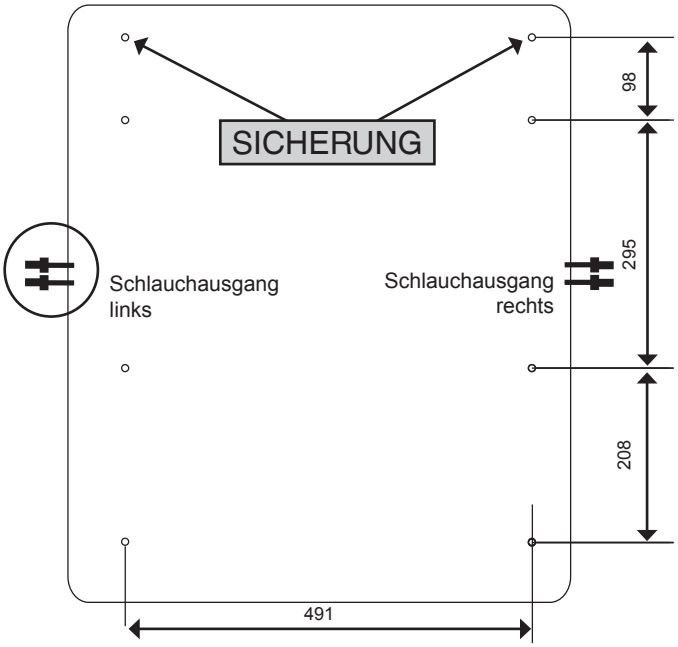
13	Die Front wieder anhand eines Magnetschraubendrehers mit ihren Schrauben anbringen und Kappen anbringen.

MONTAGE KONDENSATOR:

Achtung: Je nach Fahrzeug können die Ausgänge der Schläuche rechts oder links angebracht werden.

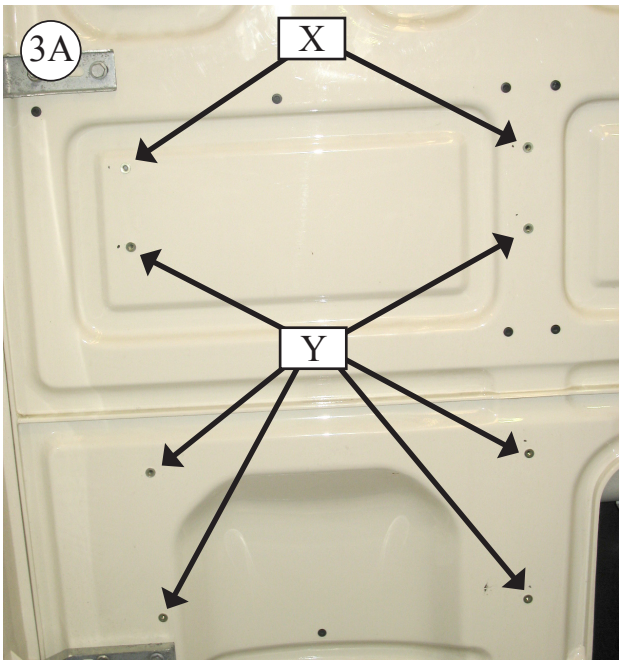
1 **Hinweis:** Wird die Montage von einer einzelnen Person durchgeführt, die Bohrungen mit den angegebenen Maßen markieren und dabei die Schlauchlänge (vom Verdampfer zum Kondensator) berücksichtigen.

2 Abdeckung abmontieren und Elektrokabel lösen.



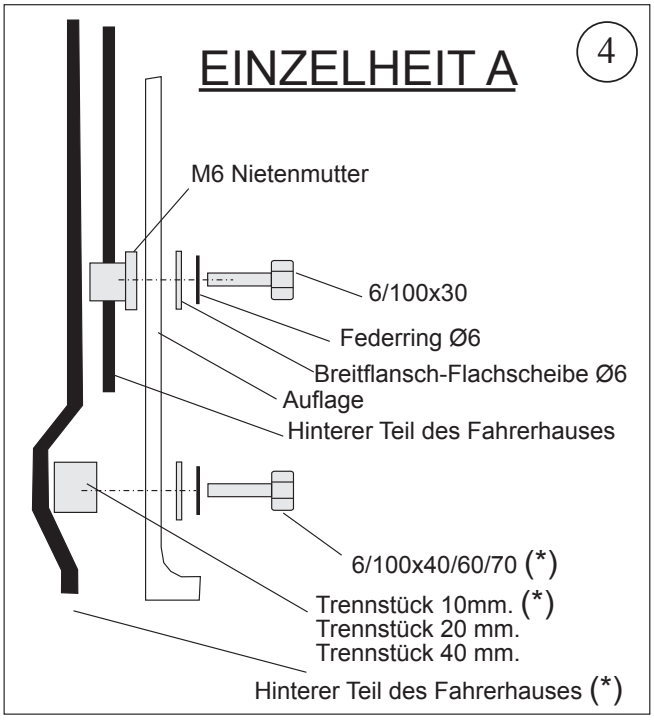
3 **Erfolgt die Montage durch 2 Personen** die Basis des Kondensators auf die hierfür geeignete Hinterseite der Kabine platzieren, **dabei die Schlauchlänge vom Ausgang des Verdampfers zum Kondensator berücksichtigen** und mindestens 6 Bohrungen befestigen.

4 Zunächst die (2) oberen Bohrungen (X) Ø 9 durchführen, Annietmuttern M6 anbringen und die Basis mit Schrauben 6/100x30 positionieren, markieren und die restlichen Bohrungen (Y) durchführen. Muttern anbringen.

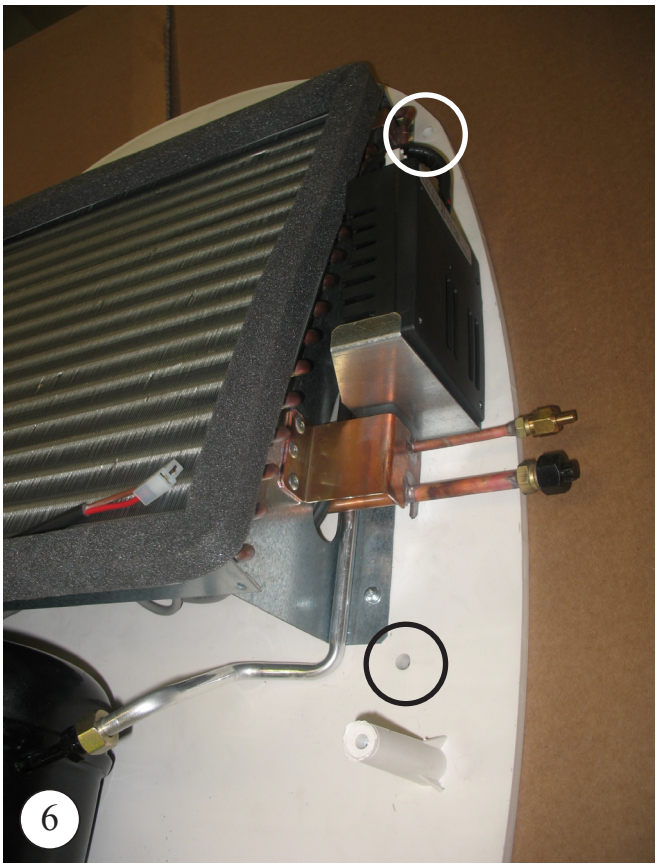


5 (*)- Ist die Unterlage nicht glatt, Distanzstück 10/20/40 mm und Schraube 6/100x40/60/70 anbringen.

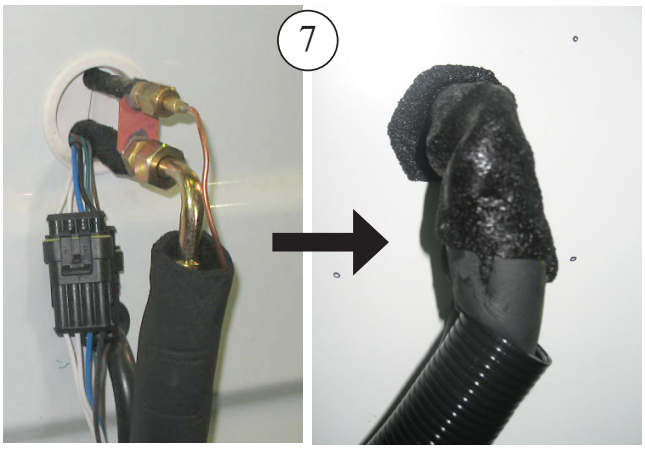
SIEHE DETAILZEICHNUNG A



6 Die Einheit mit (8) Schrauben 6/100X30, Grower-Scheibe und Flachscheibe anbringen.

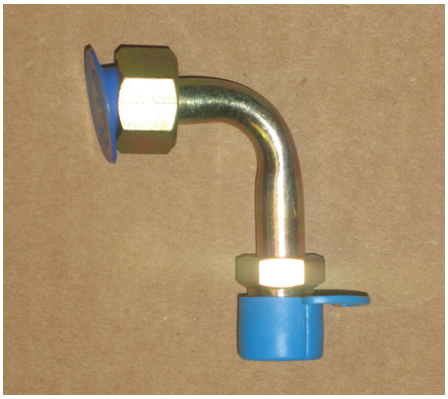


7	Kabel anschließen, Stutzen am Verdampfer anbringen und mit Tropfschutzband versiegeln.

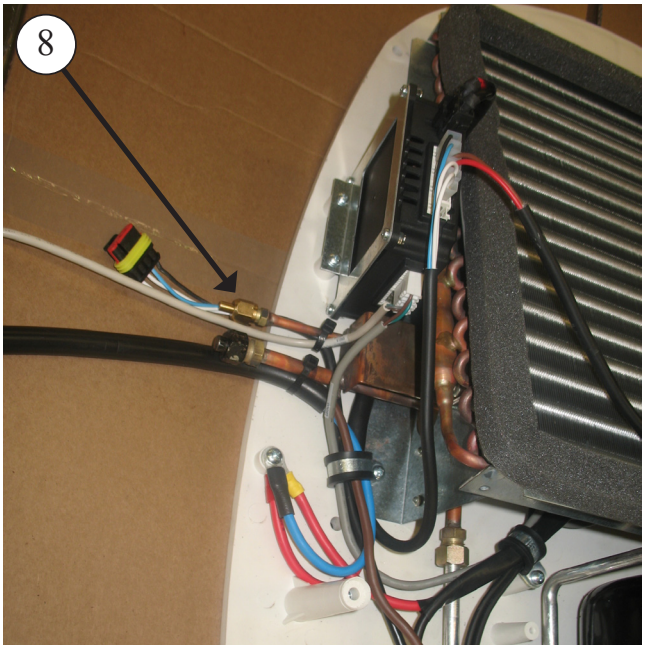


8	Schläuche und Kabel an der Kondensatoreinheit anschließen.

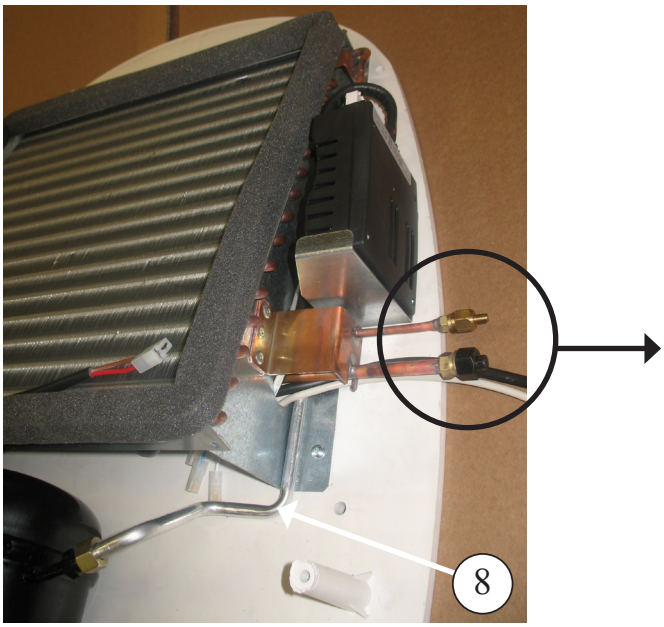
⚠	Wenn es notwendig ist, um 90 ° Schlauchanschluss positionieren.



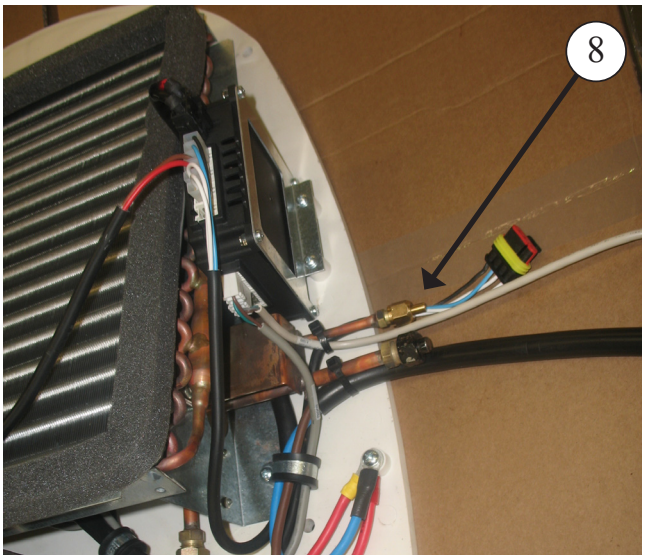
LINKS



RECHTS



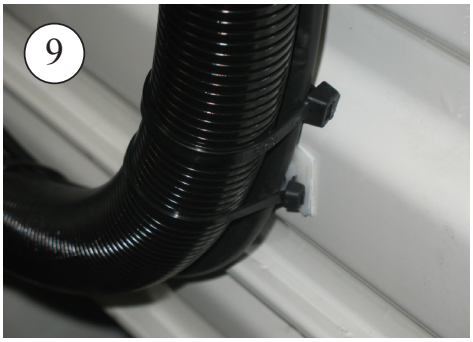
RECHTS



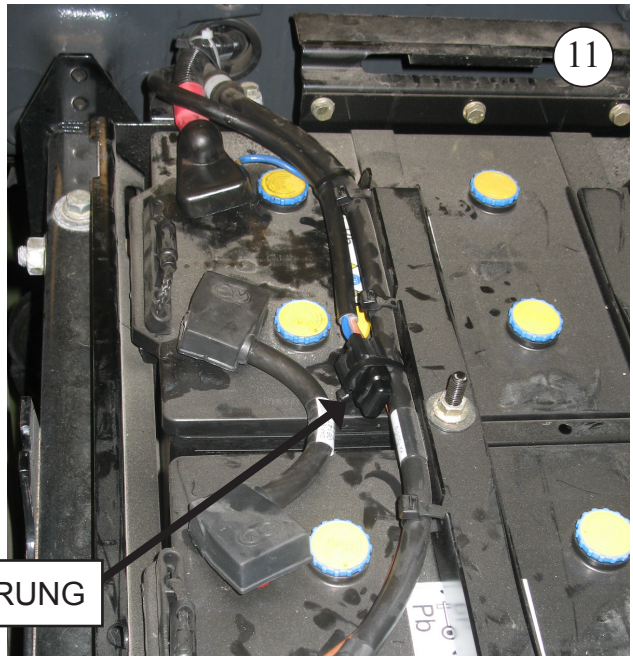
9	Schlauchschutz mit Dichtung nehmen, an Ø4 markieren und bohren und mit Blechschraube 4,8x19mm befestigen.

10	Kunststoffhalterungen ankleben und Schläuche, Kabel und Abflussschlauch befestigen (Montagebereich reinigen).

10a	Drainageventil anbringen.

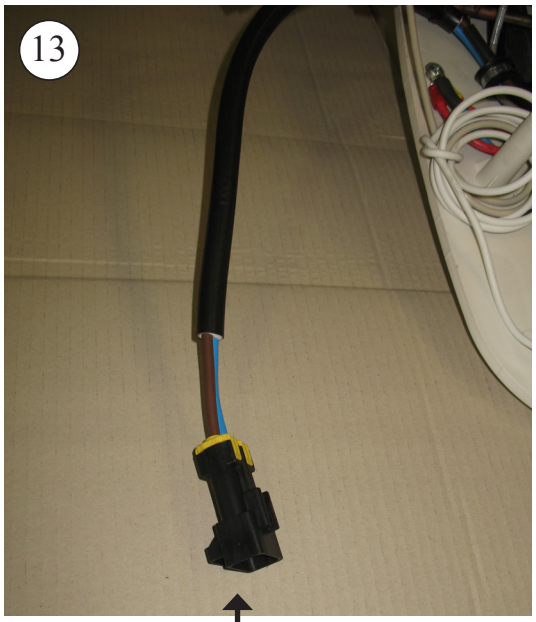


11 Stromkabel an die Batterie anschließen.
AUF DIE POLARITÄT ACHTEN.

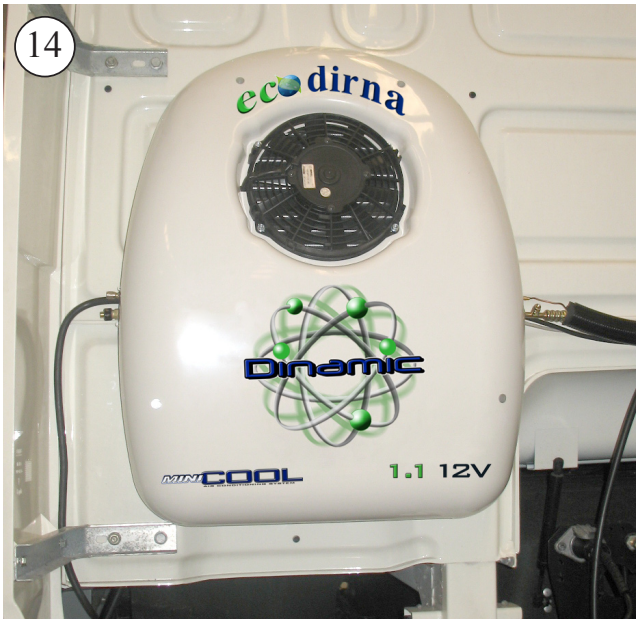


12 Die Kabel durch den geeignetsten Bereich zur Einheit führen und mit Schlauchschellen bzw. Kabelbindern befestigen.

13 Stromkabel mit Einheit verbinden.

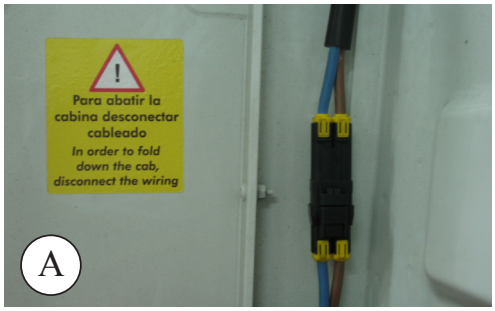


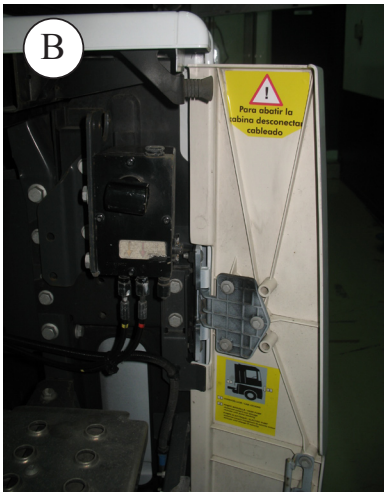
14 Abdeckung mit den zuvor abgenommenen Schrauben anbringen.



15 Stutzenkappe mit Blechschrauben 3,1x 11 an der den Schläuchen gegenüberliegenden Seite anbringen.

16 Gefahrenkleber an Kabelverbindung (A) und Kabinenhebevorrichtung anbringen (B).





GASBEFÜLLUNG:	
17	Während mindestens 30 Minuten ein Vakuum im Kreislauf herstellen.

18	Mit 300 g Gas R134a füllen und das Gerät in Betrieb nehmen.

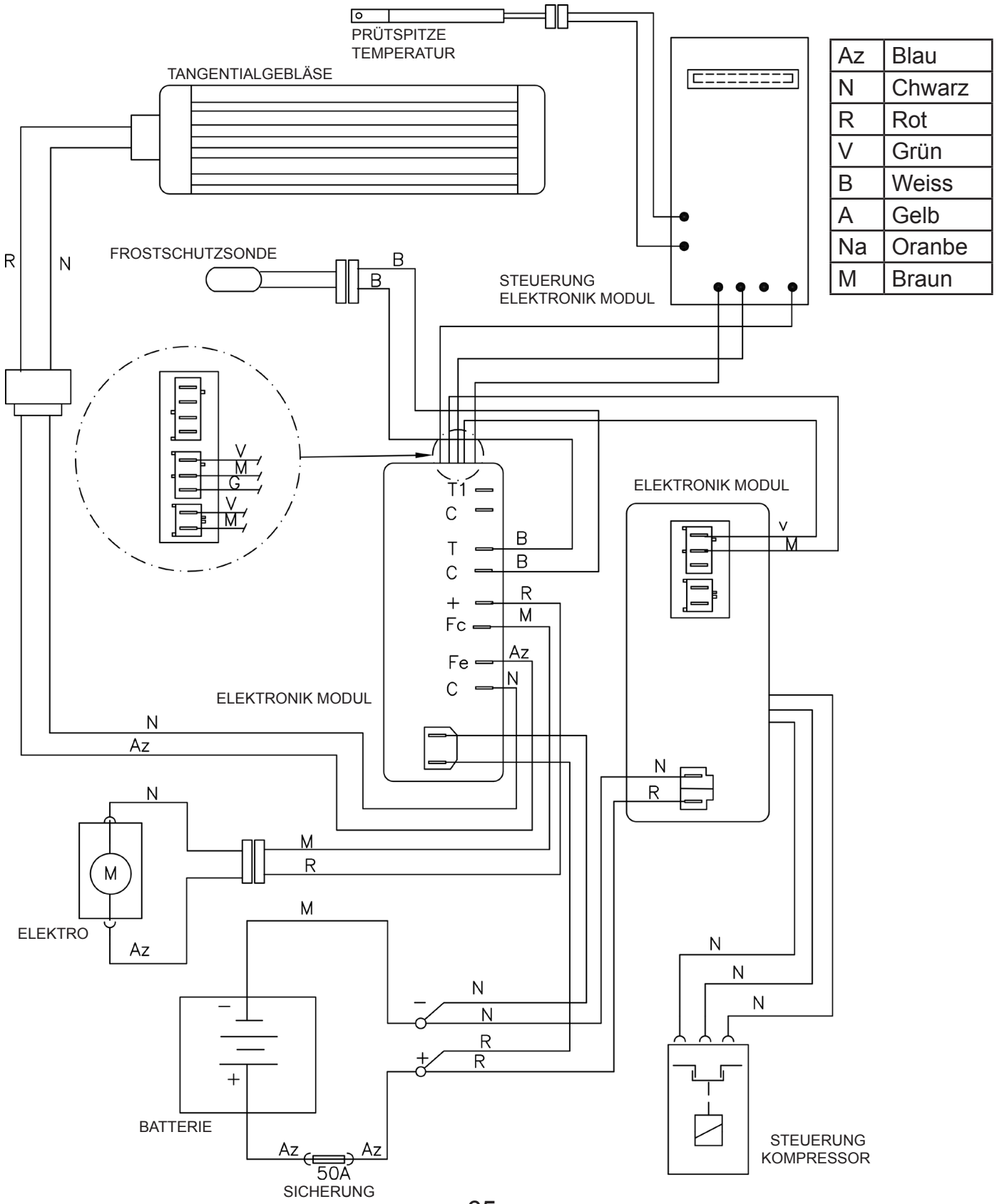
19	**ALLGEMEINER ÜBERBLICK ÜBER KONDENSATOREINHEIT UND SCHLÄUCHE.**

20	**ANSICHT DER VERDAMPFERANLAGE.**

ELEKTRISCHES SCHALTSCHEMA

WICHTIGER HINWEIS!

Darauf achten, dass die Polaritäten beim Anschluss des Geräts an die Batterie nicht vertauscht werden. Andernfalls sendet die Elektroniksteuerung Piepstöne aus. **Es darf keine Taste des Bedienfelds oder der Fernbedienung des Geräts** gedrückt werden, da dies zu irreparablen Schäden führen kann. Werden besagte Piepstöne ausgegeben, muss das Gerät von der Batterie getrennt und die Polarität des Anschlusses geprüft werden.



SUGGERIMENTI PER IL MONTAGGIO

- **Prima di cominciare il montaggio, leggere attentamente le istruzioni e rispettarle nel corso dello stesso.**
- **Usare gli attrezzi più adatti ad ogni operazione.**

ELETTRICITÀ

- **Scollegare la chiave di contatto.**
- **Scollegare la batteria prima di cominciare il montaggio.**
- **Assicurarsi di aver effettuato correttamente l'installazione e il collegamento dei componenti elettrici.**

Attrezzi
Chiave a cricchetto con rubinetto di intercettazione da 10
Cacciavite a stella TOP 10
Chiave fissa da 10
Chiave fissa da 11
Chiave fissa da 14
Chiave fissa da 17
Chiave fissa da 19
Chiave a brugola da 6
Chiave a tubo da Ø 10
Punta Ø 4
Trapano
Punta Ø 6
Sega circolare Ø 19
Sega circolare Ø 22
Sega circolare Ø 48
Forbici
Rivettarice M6

DOCUMENTAZIONE ALLEGATA ALL'APPARECCHIO:

- **Istruzioni di montaggio: 220.AA1.1008**
- **Guida dell'utente: 220.AA1.1002**
- **Soluzione dei problemi: 220.AA1.1003**
- **Garanzia: 220.AA1.0010**

Le indicazioni relative alla posizione sono:
DESTRA: lato del passeggero
SINSITRA: lato dell'autista

Coppia di serraggio *(N.m)*			
Filettatura	Qualità Acciaio		Chiave
	8.8	10.9	
M6/100	10	13	10

Montaggio da tubi		
Coppia di serraggio		
Tubi	Coppia di serraggio	Strumenti
1/4"	13-15	Chiave fissa da 14 mm
3/8"	15-17	Chiave fissa da 19 mm

AVVERTENZE:

• L'installatore deve essere in possesso della formazione necessaria in materia di aria condizionata per veicoli.

• **dirna, s.a.** declina ogni responsabilità per danni o rotture derivanti dall'errata installazione o dall'errato uso dell'impianto o da sostituzioni o modifiche effettuate senza la necessaria autorizzazione per iscritto.

• **Quantità di carica di gas refrigerante R-134a, da immettere nel circuito: 300 g.**

• Vedi la **procedura di garanzia** del prodotto in **Diagnosi dei problemi**.

• Vedi la **Guida dell'utente** dell'impianto per il corretto funzionamento del telecomando e del pannello di controllo.

• I seguenti documenti devono essere consegnati all'utente una volta conclusa l'installazione: **Guida dell'utente, Garanzia e Diagnosi dei problemi.**

OPERAZIONI PRELIMINARI:

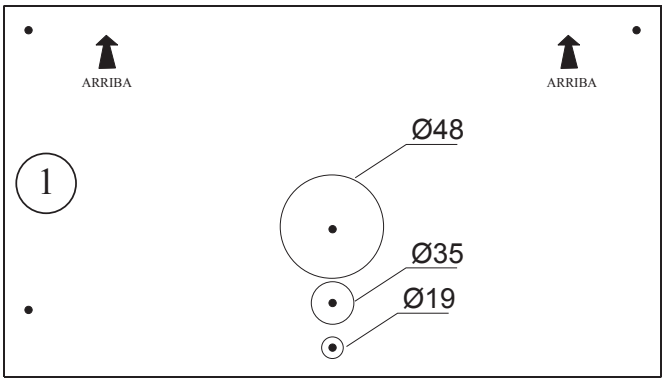
- Disinserire la batteria.
- Smontare il coperchio dell'unità evaporante.

1 **DALL'INTERNO DELLA CABINA:**

Posizionare la dima in dotazione e segnare i fori da eseguire.

A- In presenza di 2 cuccette, posizionare la dima tra entrambe.

B- In presenza di 1 cuccetta, posizionare la dima sulla stessa.



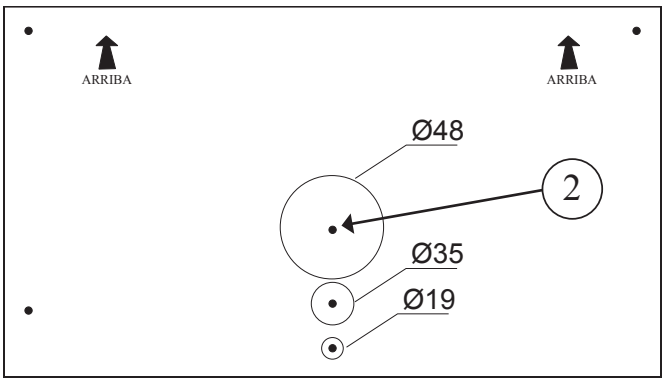
2 Praticare un foro Ø 4 passante con punta lunga nella posizione di foro Ø 48, quindi eseguire i seguenti fori:

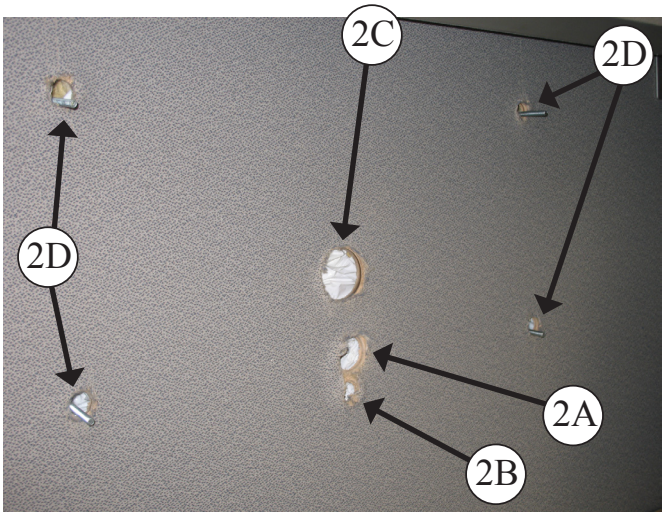
A- (1) Ø 35 solo nella tappezzeria

B- (1) Ø 19 solo nella tappezzeria

C- (1) Ø 48 solo nella tappezzeria

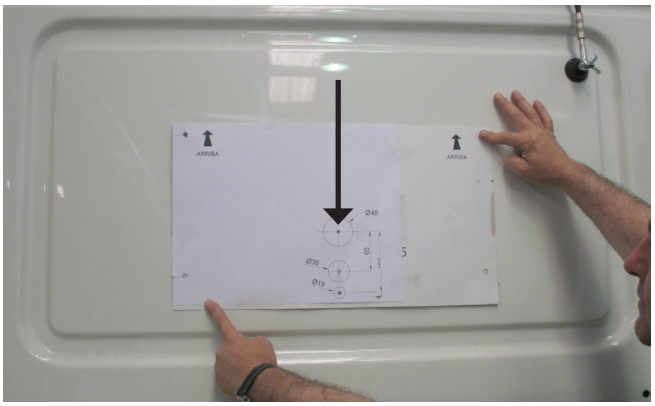
D- (4) Ø 22 solo nella tappezzeria



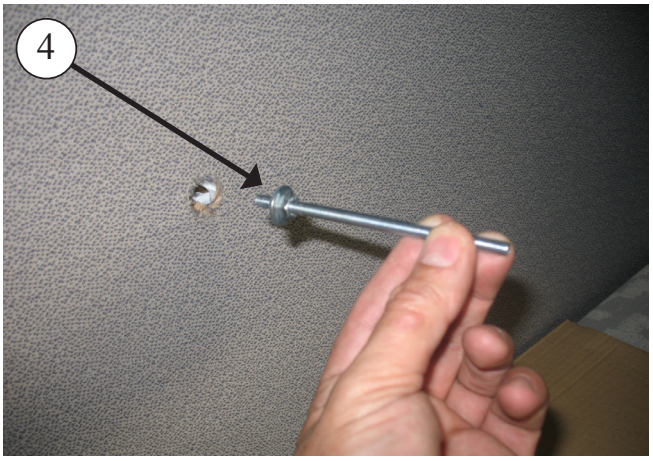


3 **DALL'ESTERNO DELLA CABINA:**

Posizionare la dima livellata all'esterno, prendendo come riferimento il foro effettuato Ø 4, quindi segnare ed eseguire i fori rimanenti.



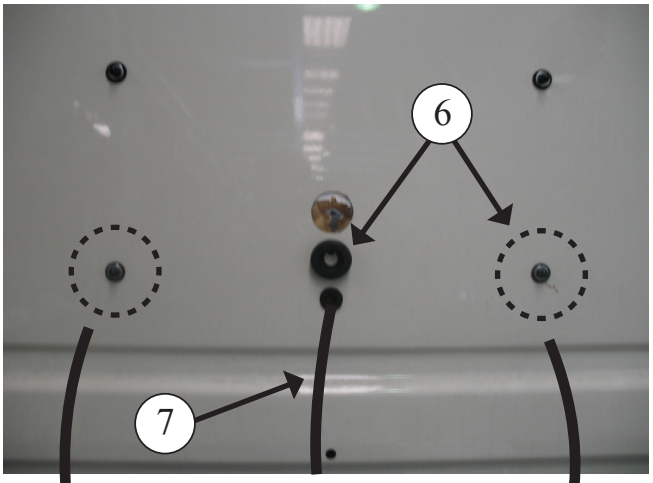
4 Inserire dall'interno le viti prigioniere M6 con il dado e la rondella, come indicato.

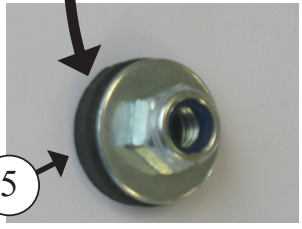


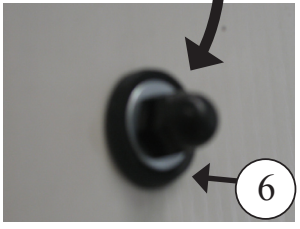
5 Fissare dall'esterno con la rondella piana di gomma e il dado autobloccante stringendo dall'interno con la chiave a tubo 10.

6 Inserire i tappi del dado e le guaine passamuro.

7 Fare passare il tubo di scarico nel foro Ø 19, nella guaina passamuro, verso l'interno cabina.







OPERAZIONI VALIDE SOLO PER MODELLI RENAULT MAGNUM

OPERAZIONI PRELIMINARI:

- Disinserire la batteria.
- Smontare il coperchio dell'unità evaporante.

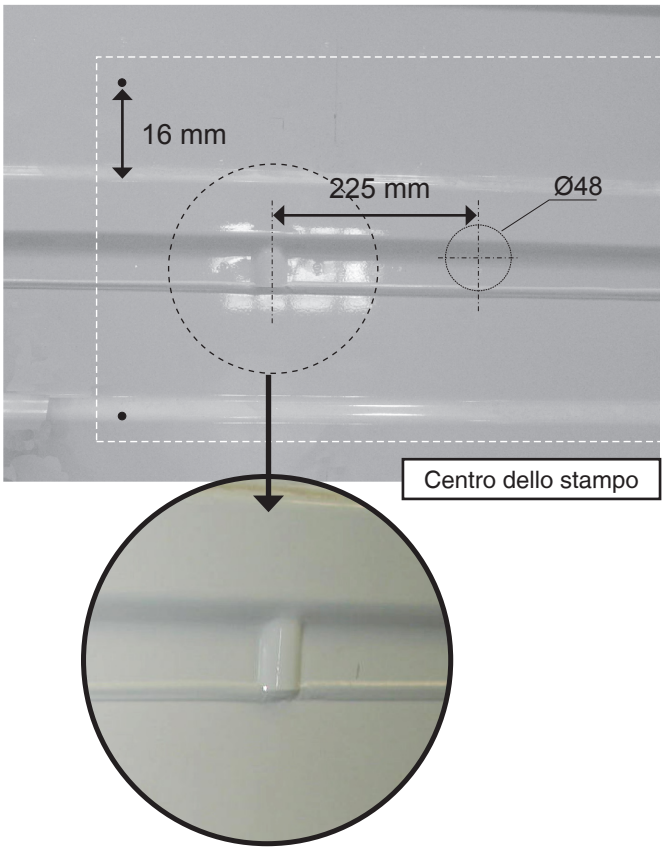
1 **DALL'ESTERNO DELLA CABINA:**

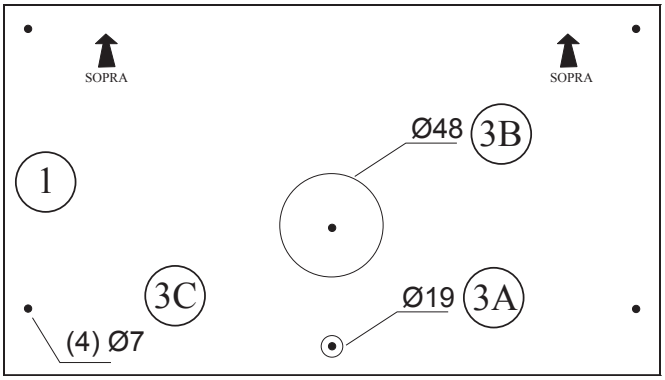
Posizionare la dima fornita secondo le quote indicate.

2 Segnare tutti i fori.

3 Praticare un foro Ø 4 passante con punta lunga nella posizione del foro Ø 48, quindi eseguire i seguenti fori:

A- (1) Ø 19
B- (1) Ø 48
C- (4) Ø 7



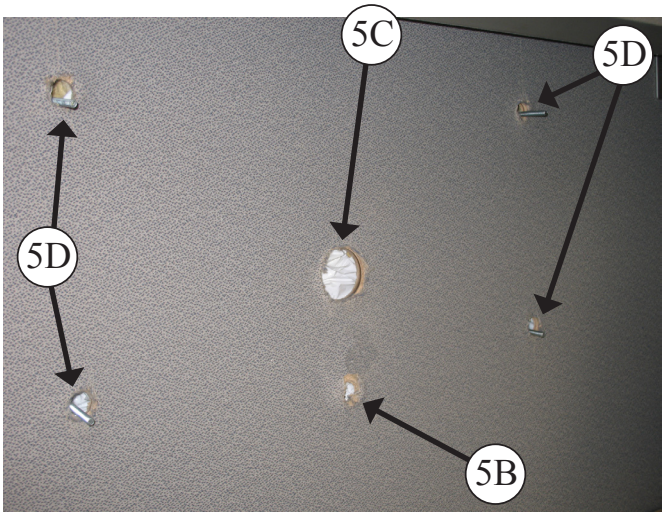


4 **DALL'INTERNO DELLA CABINA:**

Posizionare la dima in dotazione e segnare il foro da Ø 48.

5 Praticare i seguenti fori:

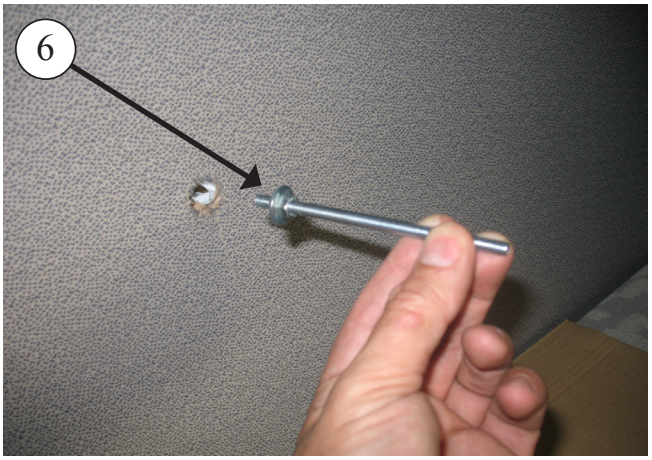
B- (1) Ø 19 solo nella tappezzeria
C- (1) Ø 48 solo nella tappezzeria
D- (4) Ø 22 solo nella tappezzeria



OPERAZIONI VALIDE SOLO PER MODELLI RENAULT MAGNUM

6 **DALL'ESTERNO DELLA CABINA:**

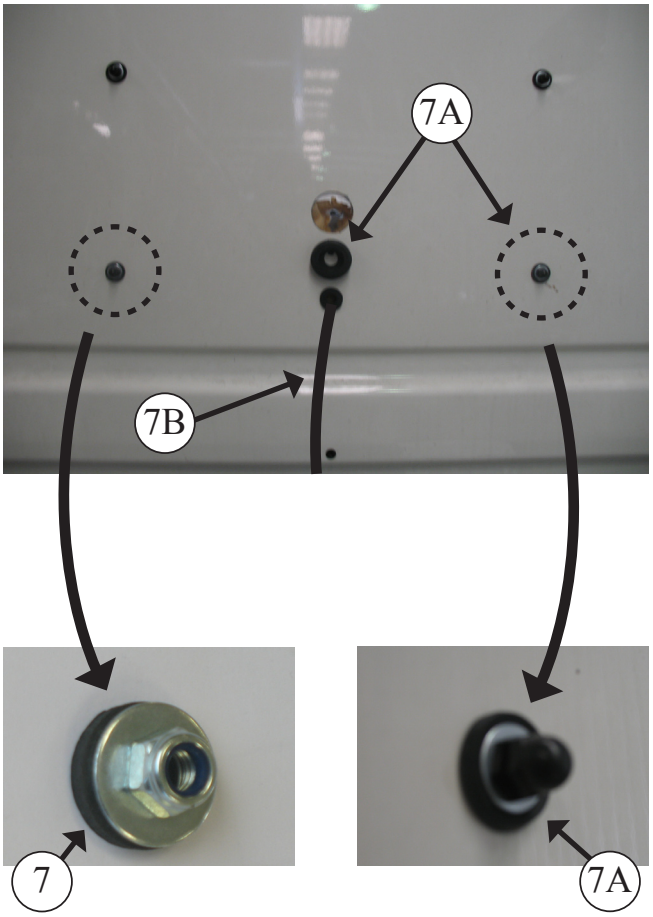
Inserire dall'interno le viti prigioniere M6 con il dado e la rondella, come indicato.



7 Fissare dall'esterno con la rondella piana di gomma e il dado autobloccante stringendo dall'interno con la chiave a tubo 10.

7A Inserire i tappi del dado e le guaine passamuro.

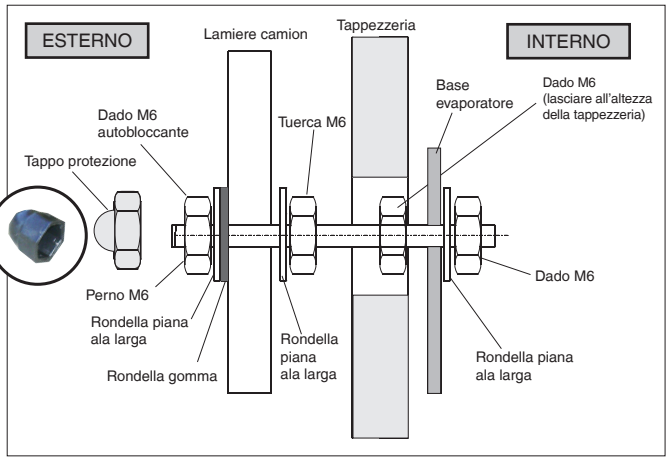
7B Fare passare il tubo di scarico nel foro Ø 19, nella guaina passamuro, verso l'interno cabina.



OPERAZIONI VALIDE PER TUTTI I MODELLI

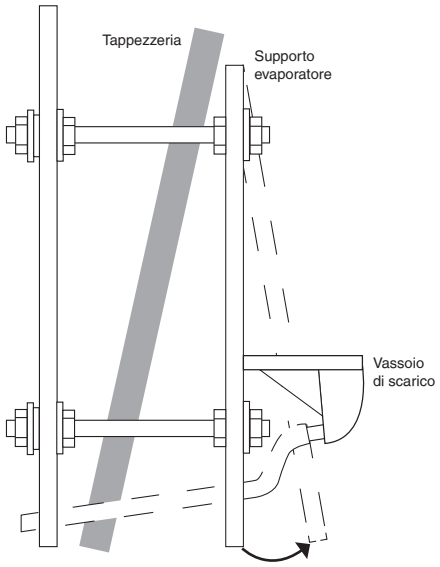
8 Sulle viti prigioniere avvitare (4) dadi M6 con (4) rondelle piane Ø 6 finché queste ultime non sono a filo della tappezzeria.

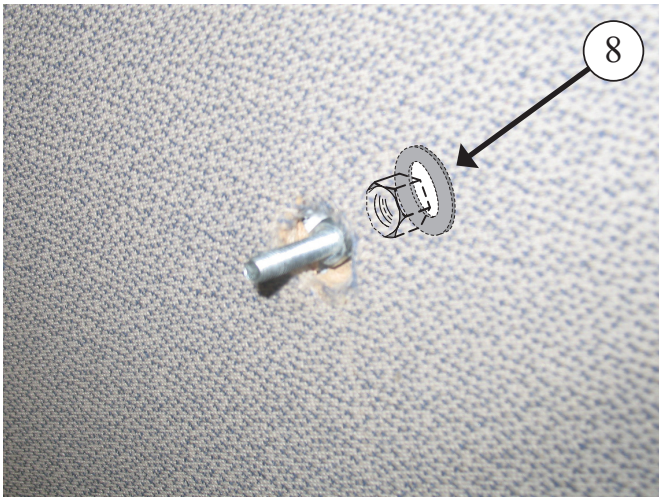
VEDI SCHEMA ALLEGATO



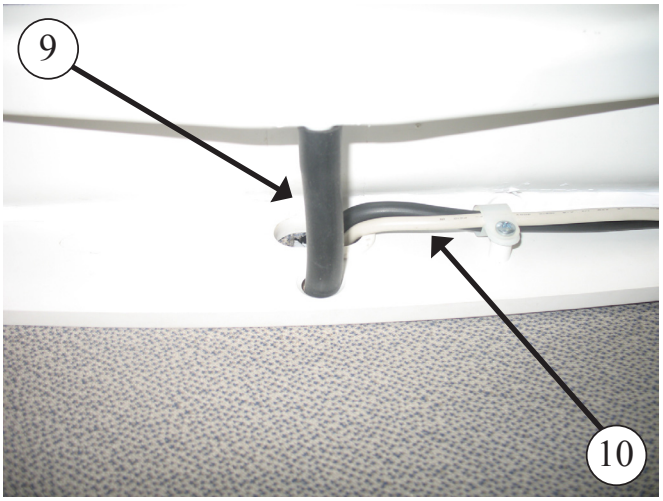
NOTA BENE

In caso di rivestimenti inclinati tappezzati, l'insieme dell'evaporatore deve essere installato verticale o inclinato con la parte inferiore sporgente per evitare che l'acqua di condensa cada sulla tappezzeria.



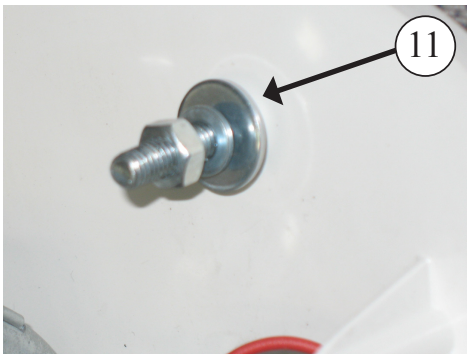


9 Fare passare il tubo di scarico nel foro della base dell'evaporatore e collegarlo al vassoio di raccolta.



10 Fare passare il cablaggio nel foro Ø 35 verso l'esterno.

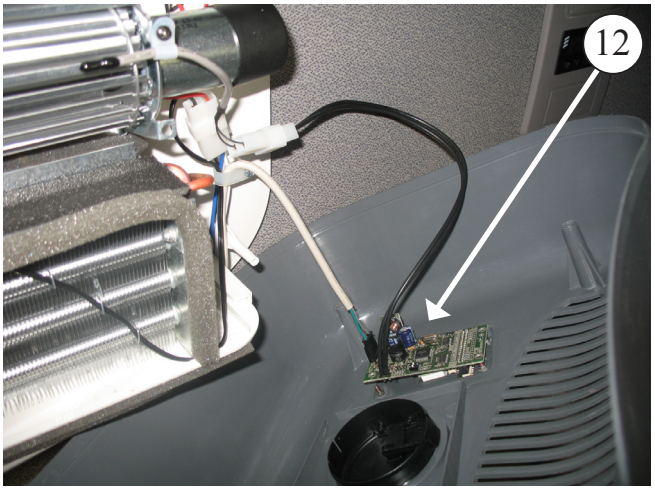
11 Inserire la base dell'evaporatore sulle viti prigioniere e fissare con (4) rondelle piane (4) grower e (4) dadi M6.



⚠ **NOTA BENE**

Lo scarico deve avere la pendenza sufficiente per evitare la caduta dell'acqua sulla tappezzeria.

12 Collegare sonda di ricircolo e cavo comunicazioni.



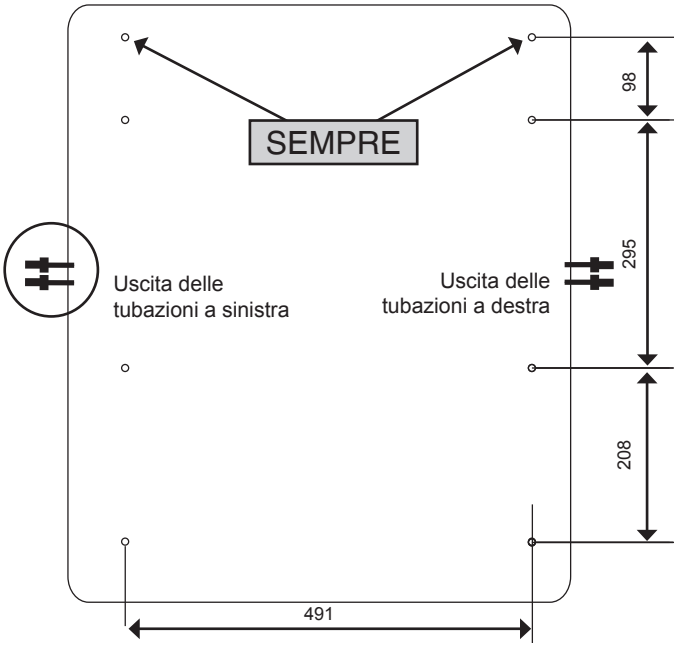
13	Fissare il frontalino con le relative viti, usando un cacciavite calamitato e posizionare i tappi.

MONTAGGIO DEL CONDENSATORE:

Nota bene: A seconda del veicolo, è possibile posizionare le uscite delle tubazioni sul lato destro o su quello sinistro

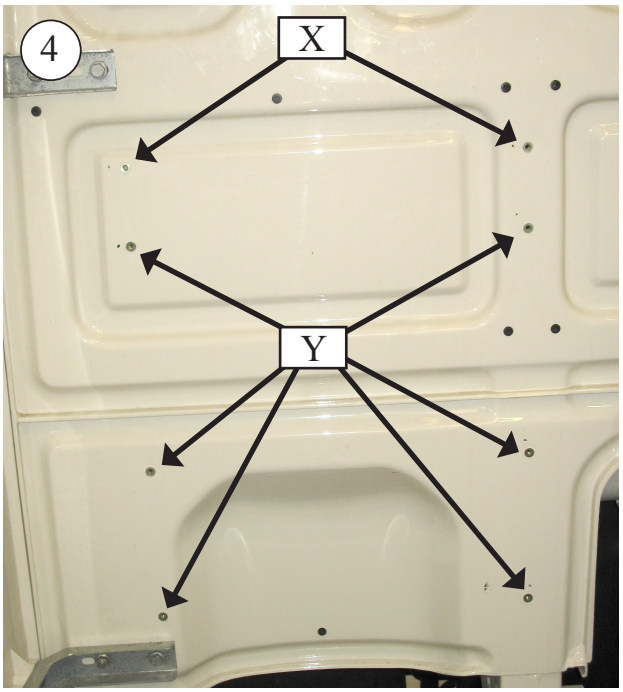
1 **Nota:** Quando l'installazione è eseguita da una sola persona, segnare i fori con le misure indicate, tenendo conto della lunghezza della tubazione (dall'evaporatore al condensatore).

2 Smontare il coperchio e disinserire il cablaggio dall'elettroventilatore.



3 **Se l'installazione è eseguita da 2 persone.** Posizionare la base del condensatore situandola nella parte più adatta della parte posteriore della cabina, **tenendo conto della lunghezza della tubazione dall'uscita dell'evaporatore al condensatore**, e segnare come minimo 6 fori.

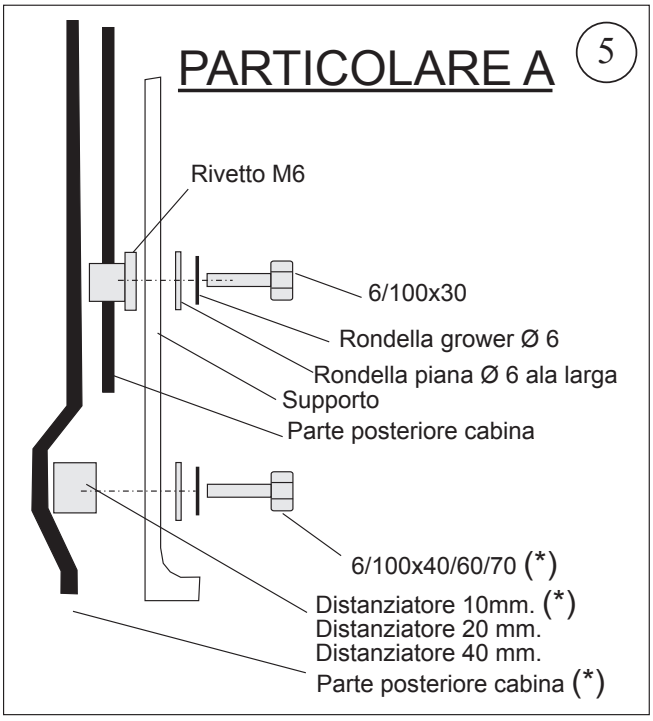
4 Praticare i (2) fori superiori **(X)** Ø 9, inserire i rivetti M6 e posizionare la base con le viti 6/100x30, quindi segnare e praticare gli altri fori **(Y)** ed inserire i dadi.



5

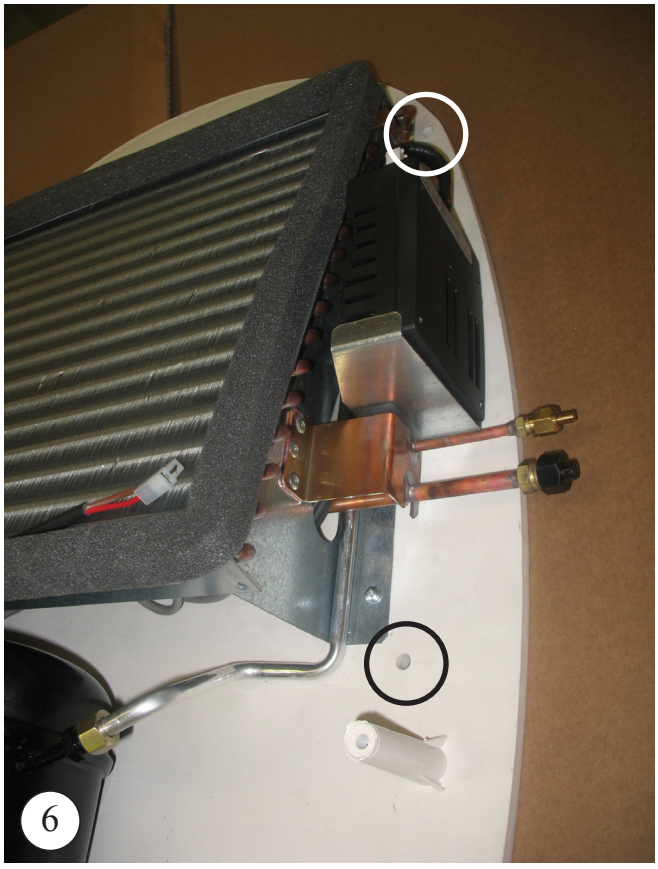
(*)- Se non appoggia sulla parte liscia, posizionare un separatore da 10/20/40 mm e una vite 6/100x40/60/70.

VEDI PARTICOLARE "A"

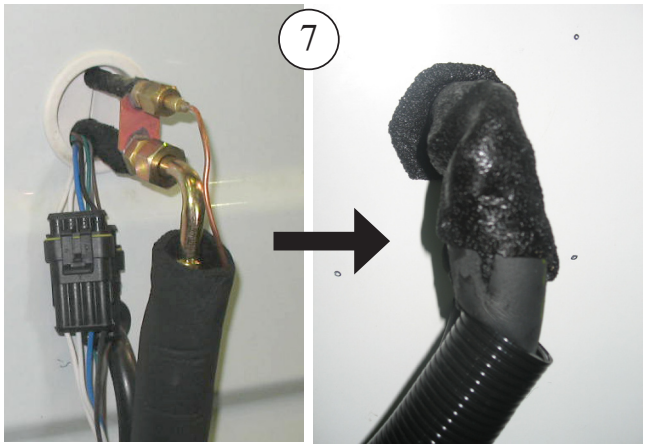


6

Fissare l'unità con (8) viti 6/100x30, rondelle grower e piana.

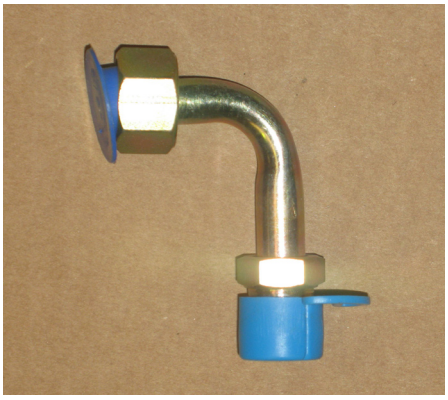


7	Collegare il cablaggio e i raccordi nell'evaporatore e sigillare con il nastro a tenuta.

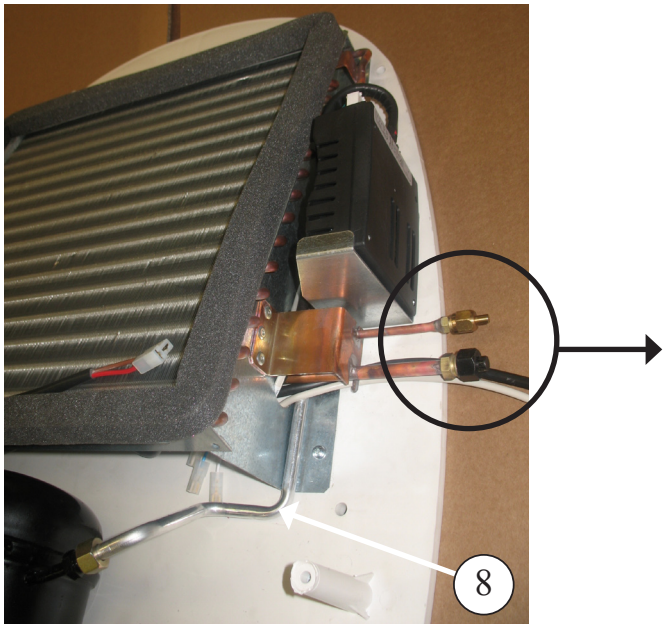


8	Collegare le tubazioni e il cablaggio sull'unità condensante.

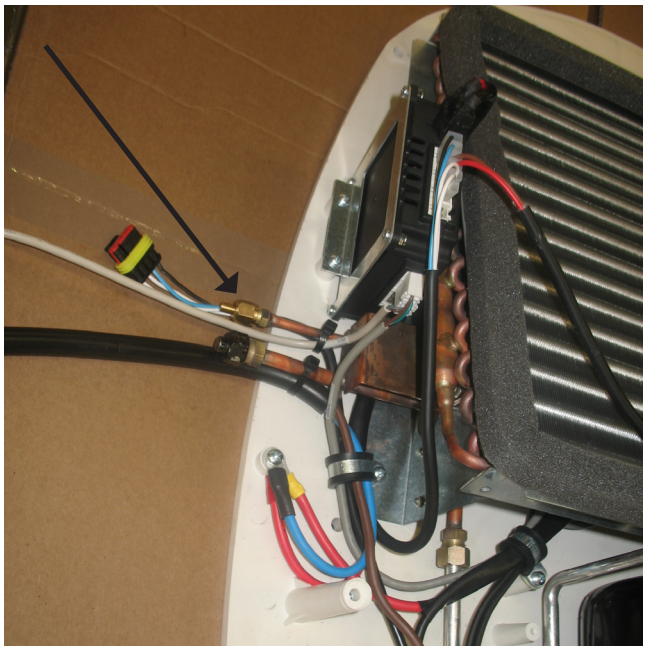
⚠	Se è necessario posizionare 90 ° portagomma.



LATO DESTRO



LATO SINISTRO



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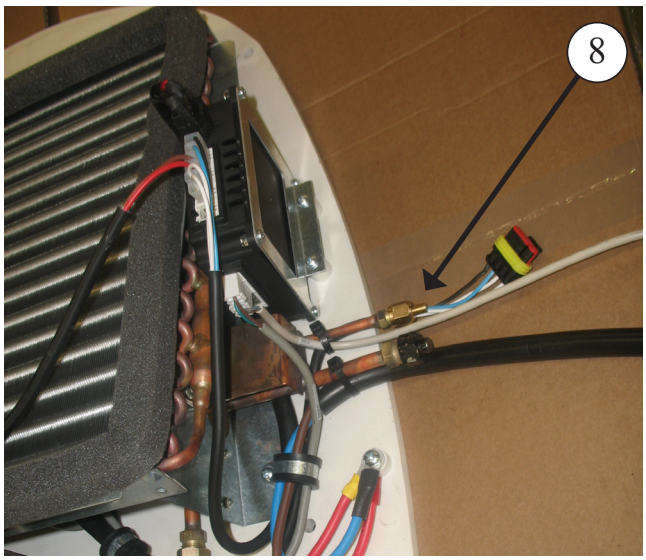
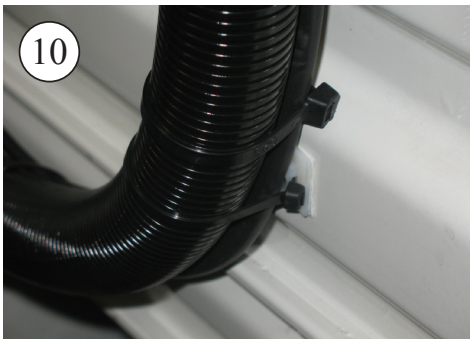
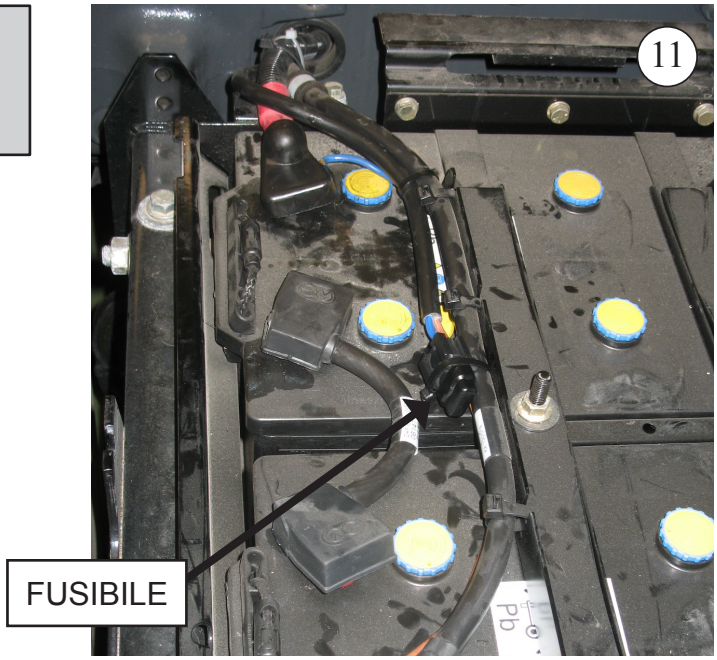


9	Posizionare la protezione delle tubazioni con la guarnizione, segnare e praticare fori Ø 4 e fissare con le viti autofilettanti 4,8x19 mm.

10	Incollare i supporti di plastica e fissare la tubazione, i cablaggi e il tubo di scarico (pulire la zona di montaggio).
10a	Inserire la valvola di drenaggio.

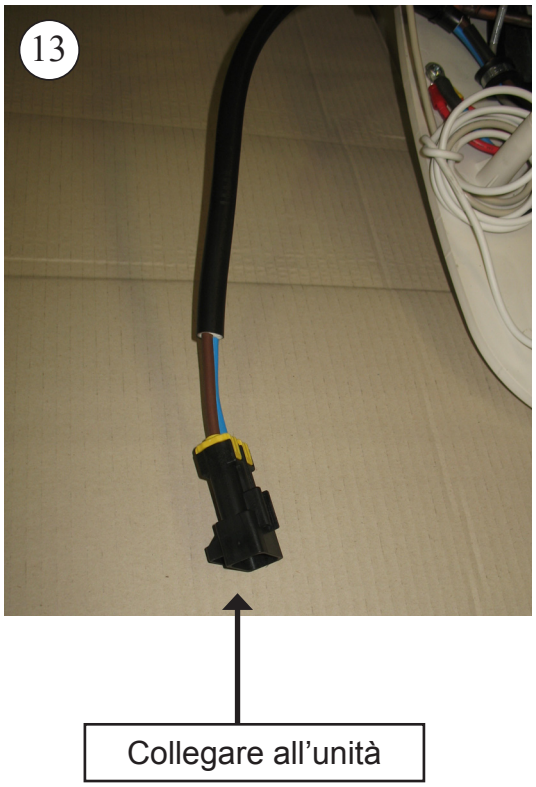


11	Collegare alla batteria il cablaggio di alimentazione **ATTENZIONE ALLA POLARITÀ.**

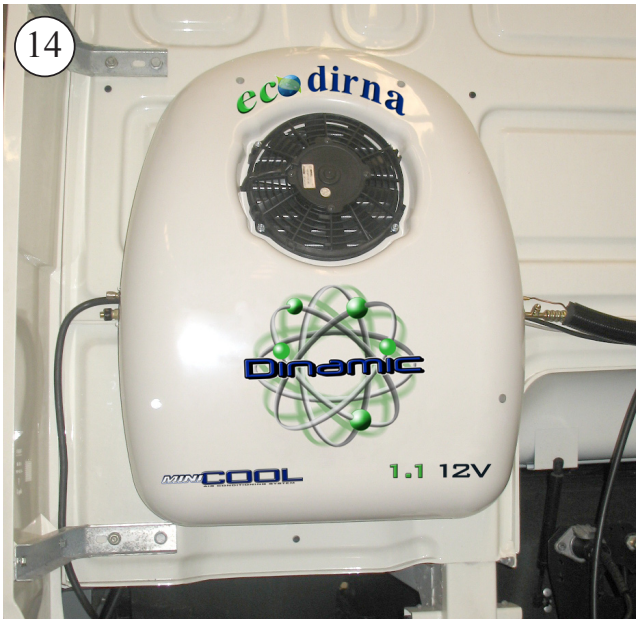


12	Fare passare il cablaggio dalla zona più adatta verso l'unità condensante, fissando con ghiere o flange.

13	Collegare il cablaggio dell'alimentazione a quello dell'unità.

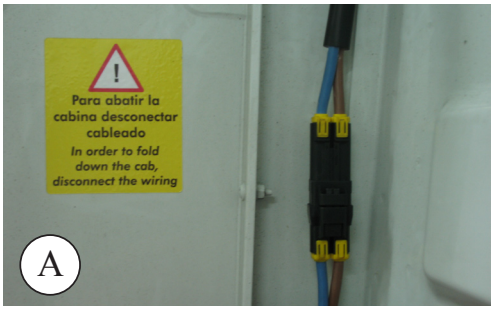


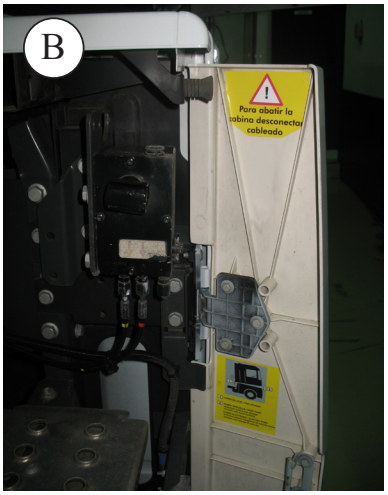
14 Montare il coperchio con le viti rimosse in precedenza.



15 Montare il coperchio protettivo dei raccordi con le viti autofilettanti 3,1x11 sul lato contrario a quello delle tubazioni.

16 Apporre gli adesivi indicanti pericolo sulla giunzione del cablaggio (A) e sul dispositivo di sollevamento della cabin (B).





CARICARE IL GAS:

15	Fare il vuoto nel circuito per almeno 30 minuti.
16	Immettere 300 g. di gas R134a e mettere l'impianto in funzione.

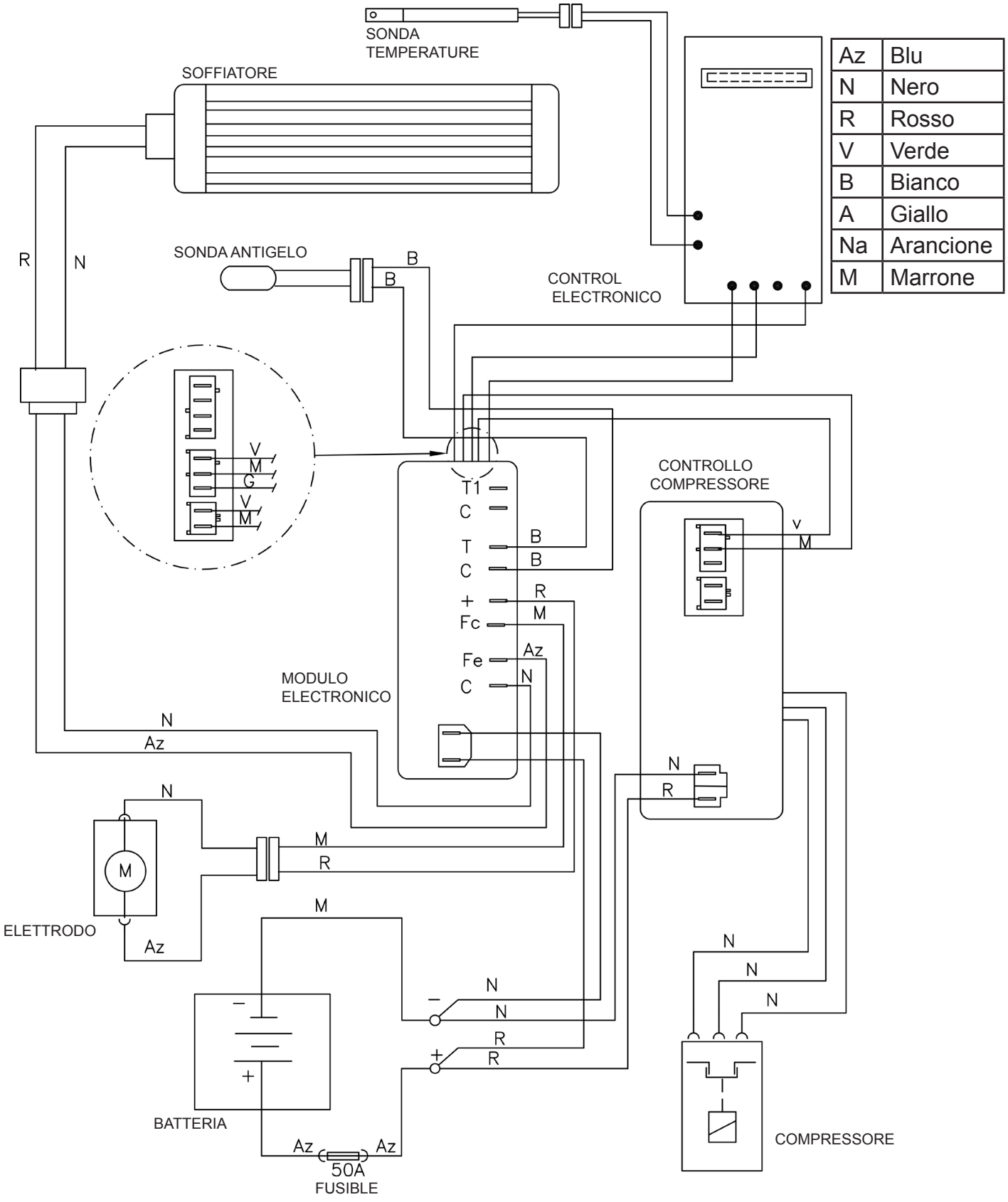
17 VISTA GENERALE DELL'UNITÀ CONDENSANTE E TUBAZIONE.

18 VISTA GENERALE DELL'UNITÀ EVAPORANTE.

ESQUEMA ELÉCTRICO

AVVERTENZA IMPORTANTE!

Fare attenzione a non invertire le polarità quando si esegue il collegamento dell'impianto alla batteria. In tal caso, il controllo elettronico emette alcuni fischi discontinui. **Non toccare mai alcun tasto né del pannello né del comando dell'impianto** dato che si potrebbero verificare danni irreparabili. Se si sentono questi fischi discontinui, disinserire l'impianto dalla batteria e verificare la polarità della connessione.



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Md:	26/04/2012

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